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ABSTRACT

References pertaining to science facilities are organized and presented in the following categories--(1) biology facilities, (2) chemistry facilities, (3) physics facilities, (4) astronomy facilities, (5) elementary and secondary school science facilities, (6) college and university science facilities, and (7) planning and science laboratory. (FS)

ED037994

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SCIENCE FACILITIES

An Interpretive Bibliography

EF 004 236

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An Interpretive Bibliography

The work presented herein was performed pursuant to a contract with the U.S. Office of Education, Department of Health, Education and Welfare (OEC-1-7-070883-5095)

ERIC Clearinghouse on Educational Facilities

The University of Wisconsin

Madison, Wisconsin

May, 1970

FOREWORD

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Laboratory Equipment
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Physics
Planetariums
Science Equipment
Science Facilities
Science Laboratories
Science Materials

All documents in the ERIC/CEF collection, which had been indexed using one or more of the aforementioned descriptors, were initial candidates for the bibliography. These documents were screened for applicability and quality and then organized into sections according to content.

The references contained herein do not represent an exhaustive compilation of publications on the subject. However, many of the documents are not widely circulated; and the bibliography serves to disseminate this information.

May, 1970

Howard E. Wakefield
Director

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College and University Science Facilities	58-67
Planning the Science Laboratory	68-77

BIOLOGY FACILITIES

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PLANNING CF NEW FACILITIES FOR BIOLOGY DEPARTMENTS

PUBLISHED-MAR66
IN- REPRINTED FROM BIOSCIENCE, V 17 N 3 P 159-183 MARCH 1967

AVAILABLE FROM- BIOSCIENCE, 3900 WISCONSIN AVE., WASHINGTON, D.C. 20016

024 PAGES

DESCRIPTORS- *BIOLOGY, *BUILDING DESIGN, *FACILITY GUIDELINES, *SCIENCE EQUIPMENT, *SCIENCE FACILITIES, CHECK LISTS, COLLEGE BUILDINGS, FACILITY EXPANSION, FACILITY REQUIREMENTS

A SYMPOSIUM DISCUSSION IS PRESENTED CONCERNING THE FOLLOWING ASPECTS OF PLANNING AND DESIGN OF BIOLOGY FACILITIES--(1) PHASES OR STEPS THAT ARE NECESSARY IN THE DESIGN OF A BIOLOGY BUILDING, (2) THE RCLE AND RESPONSIBILITY OF ARCHITECTS, ENGINEERS, AND CONSULTANTS IN THE OVER-ALL PLANNING, (3) THE NATURE OF THE INFORMATICN REQUIRED FROM VARIOUS MEMBERS OF THE COLLEGE OR UNIVERSITY, (4) RELATION OF PLANNING STEPS TO REQUIREMENTS OF FUNDING AGENCIES, (5) GENERAL PLANNING PROBLEMS SPECIFIC TO THE DESIGN OF BIOLOGY FACILITIES, AND (6) EXAMPLES OF PROBLEMS THAT HAVE OCCURRED IN THE DESIGN OF PREVIOUS BUILDINGS. A CHECKLIST FOR BIOLOGY FACILITIES AND EWUIPMENT IS INCLUDED. (FS)//

Availability:

Bioscience
3900 Wisconsin Avenue
Washington, D.C. 20016

ERIC/CEF DOCUMENT NO. EF002701 DISPOSITION-CERS 2

IMPACT OF NEW CURRICULA ON FACILITIES FOR BIOLOGY

BY- DAWSON, JAMES R., JR

PUBLISHED-DEC64
IN- THE AMERICAN BIOLOGY TEACHER, V26 N8 P601-4 DEC 1964

AVAILABLE FROM- THE AMERICAN BIOLOGY TEACHER, GREAT FALLS HIGH SCHOOL, GREAT FALLS, MONTANA ATTN. JERRY LIGHTNER

004 PAGES

DESCRIPTORS- *FACILITY REQUIREMENTS, *SCIENCE EQUIPMENT, *SCIENCE FACILITIES, *SCIENCE LABORATORIES, *SCIENCE MATERIALS, BIOLOGY INSTRUCTION, CLASSROOM DESIGN, EDUCATIONAL EQUIPMENT, LABORATORY EQUIPMENT, SCIENCE INSTRUCTION

THE IMPACT OF THE BIOLOGICAL SCIENCES CURRICULUM STUDY IS CONSIDERED WITH REGARD TO CHANGES BROUGHT ABOUT (AND NEED FOR CHANGE) IN THE HIGH SCHOOL BIOLOGY LABORATORY. AFTER A REVIEW AND RESTATEMENT OF THE ROLE OF THE LABORATORY IN THE BSCS PROGRAM, THE BSCS FACILITY REQUIREMENTS ARE PRESENTED FOR STUDENT WORK AREAS, UTILITIES, STORAGE SPACE, AND EQUIPMENT AND SUPPLIES. A GENERAL DESCRIPTION IS GIVEN OF THE STATUS OF BSCS TEST SCHOOLS AND CHANGES IN LABORATORY FACILITIES, WHICH COULD BE ATTRIBUTED TO THE BSCS PROGRAM, ARE NOTED. (FS)

Availability:

Jerry Lightner
The American Biology Teacher
Great Falls High School
Great Falls, Montana

ERIC/CEF DOCUMENT NO. EF003208 DISPOSITION-EDC 1

DESIGN CRITERIA FOR MICROBIOLOGICAL FACILITIES AT FORT DETRICK. VOL 1. INTRODUCTION

UNITED STATES ARMY BIOLOGICAL LABORATORIES, FORT DETRICK, MD.

PUBLISHED-MAR66

AVAILABLE FROM- U.S. ARMY BIOLOGICAL LABORATORIES FORT DETRICK, FREDERICK, MARYLAND

U.S. CONTRACT/GRANT NO.-DA-18-064-AMC-401 (A)

049 PAGES

DESCRIPTORS- *BUILDING DESIGN, *CRITERIA, *LABORATORIES, *LABORATORY SAFETY, *MICROBIOLOGY, ACCIDENT PREVENTION, BUILDING CONVERSION, BUILDING IMPROVEMENT, CONSTRUCTION COSTS, DESIGN NEEDS, ENVIRONMENTAL CRITERIA, FACILITY GUIDELINES, FACILITY REQUIREMENTS, RESEARCH, SCIENCE LABORATORIES, UTILITIES

VOLUME 1 OF A TWO VOLUME MANUAL SERVES AS AN INTRODUCTION TO DESIGN CRITERIA FOR MICROBIOLOGICAL FACILITIES.IT IS ADDRESSED TO MANAGEMENT PERSONNEL RESPONSIBLE FOR PLANNING, BUDGETING,AND MAKING POLICY DECISIONS FOR CONSTRUCTION OR REMODELING OF MICROBIOLCGICAL RESEARCH LABORATORIES. THIS VOLUME IS ALSO CONCERNED WITH--(1) MICROBIOLOGICAL SAFETY DESIGN PHILOSOPHY, (2) CONSTRUCTION COSTS, (3) GENERAL UTILITIES AND SERVICES,(4) FACTORS AFFECTING ARCHITECT-ENGINEERS, (5) CHANGES IN SAFETY PHILOSOPHY, AND (6) A BIBLIOGRAPHY. (RH)//

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DESIGN CRITERIA FOR MICROBIOLOGICAL FACILITIES AT FORT DETRICK. VOL 2. DESIGN CRITERIA

UNITED STATES ARMY BIOLOGICAL LABORATORIES, FORT DETRICK, MARYLAND

PUBLISHED-MAR66

AVAILABLE FROM- U.S. ARMY BIOLOGICAL LABORATORIES FORT DETRICK, FREDERICK, MARYLAND

U.S. CONTRACT/GRANT NO.-DA-18-064-AMC-401 (A)

202 PAGES

DESCRIPTORS- *BUILDING DESIGN, *CRITERIA, *LABORATORIES, *LABORATORY SAFETY, *MICROBIOLOGY, AIR CONDITIONING, ARCHITECTURE, BUILDING CONVERSION, BUILDING IMPROVEMENT, CONSTRUCTION COSTS, CONTROLLED ENVIRONMENT, DESIGN NEEDS, ELECTRICAL SYSTEMS, ENVIRONMENTAL CRITERIA, EQUIPMENT, FACILITY GUIDELINES, FACILITY REQUIREMENTS, GLOSSARIES, HEATING, INSTRUMENTATION, PLUMBING, SCIENCE LABORATORIES, UTILITIES

VOLUME 2 OF A TWO-VOLUME MANUAL OF DESIGN CRITERIA, BASED PRIMARILY ON BIOLOGICAL SAFETY CONSIDERATIONS. IT IS PREPARED FOR THE USE OF ARCHITECT-ENGINEERS IN DESIGNING NEW OR MODIFIED MICROBIOLOGICAL FACILITIES FOR FORT DETRICK, MARYLAND. VOLUME 2 IS DIVIDED INTO THE FOLLOWING SECTIONS--(1) ARCHITECTURAL, (2) HEATING, VENTILATING, AND AIR CONDITIONING, (3) PIPING, (4) EQUIPMENT, (5) ELECTRICAL, AND (6) INSTRUMENTATION. EACH IS ADDRESSED TO A SPECIALIST IN A GIVEN FIELD AND IS LARGELY SELF-CONTAINED. AN ALPHABETICAL SUBJECT INDEX IS GIVEN AT THE FRONT OF THIS VOLUME AS WELL AS A COMPREHENSIVE GLOSSARY. (RH)//

Availability:

Clearinghouse for Federal, Scientific,
and Technical Information
Springfield, Virginia 22151

ERIC/CEF DOCUMENT NO. EF003190 DISPOSITION-EDC 2

SPLIT-FUNCTION COOLING CYCLE FOR VERTICAL LAMINAR FLOW CLEAN ROOMS

BY- WEBER, JOHN A.

PUBLISHED-NOV67
IN- HEATING, PIPING AND AIR CONDITIONING, P 113-115 NOV 1967

AVAILABLE FROM- REINHOLD PUB. CORP., 10 SOUTH LA SALLE ST, CHICAGO, ILLINOIS 60603

003 PAGES

DESCRIPTORS- *AIR CONDITIONING, *LABORATORY EQUIPMENT, *SCIENCE FACILITIES , *SCIENCE LABORATORIES, *THERMAL ENVIRONMENT, AIR FLOW, DESIGN NEEDS, FACILITY GUIDELINES, FACILITY REQUIREMENTS, SPECIFICATIONS

DESIGN FEATURES ARE DESCRIBED FOR A SPLIT FUNCTION AIR CONDITIONING SYSTEM FOR VERTICAL LAMINAR FLOW CLEAN ROOMS.THE OPERATION OF THE COOLING CYCLE AND ITS CONTROL DEVICES ARE EXPLAINED.GRAPHIC ILLUSTRATIONS ARE INCLUDED. (FS)//

Availability:

Reinhold Publication Corporation
10 South La Salle Street
Chicago, Illinois 60603

ERIC/CEF DOCUMENT NO. EF003304 DISPOSITION-EDC 1

LABORATORY ANIMAL FACILITIES. LABORATORY DESIGN NOTES

PUBLISHED-MAR65

008 PAGES

DESCRIPTORS- *ANIMAL FACILITIES, *BIOLOGICAL SCIENCES, *BUILDING DESIGN, *DESIGN NEEDS, *LABORATORIES, ANIMAL BEHAVIOR, ANIMAL SCIENCE, ARCHITECTURE, BIOMEDICAL EQUIPMENT, HOUSING, INTERIOR SPACE, LABORATORY EQUIPMENT, RESEARCH, SPACE UTILIZATION, VETERINARY MEDICINE

DESIGN OF LABORATORY ANIMAL FACILITIES MUST BE FUNCTIONAL. ACCORDINGLY, THE DESIGNER SHOULD BE AWARE OF THE COMPLEX NATURE OF ANIMAL RESEARCH AND SPECIFICALLY THE TYPE OF ANIMAL RESEARCH WHICH WILL BE CONDUCTED IN A NEW FACILITY. THE BUILDING OF ANIMAL-CARE FACILITIES IN RESEARCH INSTITUTIONS REQUIRES SPECIAL KNOWLEDGE IN LABORATORY ANIMAL MEDICINE, ANIMAL HUSBANDRY, BIOMEDICAL RESEARCH, AND ARCHITECTURE. A MAJOR CONCERN SHOULD BE ACCESSIBILITY OF THE FACILITY BY INVESTIGATORS AND REASONABLE PROXIMITY TO LABORATORY AREAS. SIX GENERAL FLOOR PLANS FOR HOUSING LABORATORY ANIMALS ARE DISCUSSED. (RH)//

Availability:

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MF $0.25 HC $0.50

ERIC/CEF DOCUMENT NO. EF003330 DISPOSITION-EDC 2

CHARACTERISTICS OF CLEAN ROOMS

BY- TREBOR, F.N.

PUBLISHED-JUL67

007 PAGES

DESCRIPTORS- *CONTROLLED ENVIRONMENT, *DISEASE CONTROL, *FACILITY REQUIREMENTS, *SCIENCE FACILITIES, *SCIENCE LABORATORIES, AIR FLOW, DESIGN NEEDS, DESIGN PREFERENCES, FACILITY GUIDELINES, LABORATORY EQUIPMENT, SANITATION, SPECIFICATIONS, STANDARDS

TECHNICAL FEATURES ARE DESCRIBED REGARDING STANDARDS OF CLEANLINESS FOR SCIENCE LABORATORY FACILITIES-BIO-CLEAN, SUPER-CLEAN, DUST-FREE, AND MAGNETICALLY-CLEAN LABORATORY FEATURES ARE CONSIDERED. EMPHASIS IS GIVEN TO THE NECESSARY RESTRAINTS IMPOSED ON PEOPLE WHO LIVE AND WORK IN CLEAN ROOMS AND TO THE TWO DISTINCT APPROACHES TO DESIGN AND OPERATION OF MOST CLEAN ROOMS TODAY--(1) NON-LAMINAR AIR FLOW, OR (2) LAMINAR AIR FLOW DESIGN. (FS)//

Availability:

United Business Publications
200 Madison Avenue
New York, New York 10016

ERIC/CEF DOCUMENT NO. EF003478 DISPOSITION-EDC 2

SECONDARY SCHOOL BIOLOGY LABORATORY DESIGN, AN APPROACH. SCHOOL BUILDING DIGEST.

BY- VICKERY, D. J.
ASIAN REGIONAL INST. FOR SCHOOL BUILDING RESEARCH, COLOMBO (CEYLON)

PUBLISHED-FEB69

AVAILABLE FROM- ASIAN REGIONAL INST. FOR SCHOOL BUILDING RESEARCH, (SPONSORED BY UNESCO) P.O. BOX 1368, COLOMBO, CEYLON

002 PAGES

DESCRIPTORS- *BIOLOGY INSTRUCTION, *FURNITURE DESIGN, *LABORATORY EQUIPMENT, *SECONDARY SCHOOLS, FLEXIBLE CLASSROOMS, JUNIOR HIGH SCHOOLS, STUDENT MOTIVATION, TEACHING METHODS

RECENT REVISIONS IN TEACHING METHODS AND BIOLOGY CURRICULA FOR ASIAN JUNIOR HIGH SCHOOLS HAS DICTATED THE NEED FOR NEW LABORATORY FURNITURE DESIGN. THE CURRICULUM CONTENT IS MORE RELATED TO THE CHILDS EVERYDAY LIFE AND EXPERIENCE, WITH GREATER EMPHASIS PLACED ON PROBLEM-CENTERED LEARNING. THE CHILDREN WORK IN GROUPS OF UP TO EIGHT ON SEVERAL LONG AND SHORT TERM PROJECTS. A LIGHT, EASILY MOVABLE BIOLOGY TABLE WAS THE TYPE OF UNIT MOST LIKELY TO MEET THE NEEDS FOR FLEXIBILITY DEMANDED FOR THE NEW SCHEMES OF WORK. STUDY OF THE DETAILED TEACHING SCHEMES INDICATED NO NEED FOR PIPED WATER SUPPLY, DRAINAGE, PIPED GAS, OR ELECTRICITY. SEVERAL SKETCHES OF THE TABLE AND CLASSROOM LAYOUT ACCOMPANY THE ARTICLE. (TC)//

Availability:

Asian Regional Institute for School
Building Research
P.O. Bos 1368
Colombo, Ceylon

ERIC/CEF DOCUMENT NO. EF003337 DISPOSITION-EDC 2

LAB DESIGN PROTECTS STAFF FROM INFECTIOUS MATERIALS

PUBLISHED-APR67
IN- LABORATORY MANAGEMENT, P 28-32 APRIL 1967

AVAILABLE FROM- UNITED BUSINESS PUB., INC., 200 MADISON AVE., NEW YORK, N.Y. 10016

004 PAGES

DESCRIPTORS- *BUILDING DESIGN, *FACILITY REQUIREMENTS, *LABORATORY SAFETY, * PHYSICAL DESIGN NEEDS, *SCIENCE LABORATORIES, DESIGN NEEDS, FACILITY GUIDELINES, LABORATORY EQUIPMENT, SAFETY EQUIPMENT, SCIENCE FACILITIES

DESIGN FEATURES ARE DESCRIBED FOR A HYPOTHETICAL SCIENCE LABORATORY, INCLUDING FUNCTIONAL CLEAN AND RESEARCH ZONES, WHICH ARE ORIENTED FOR PARTICULAR RESEARCH STUDIES. EMPHASIS IS GIVEN TO THE MAJOR DESIGN CRITERIA IN BUILDING AND EQUIPMENT TO FACILITATE PROTECTION OF THE INVESTIGATOR, THE EXPERIMENTS, AND THE SURROUNDING COMMUNITY. (FS)//

Availability:

United Business Publications, Inc.
200 Madison Avenue
New York, New York 10016

ERIC/CEF DOCUMENT NO. EF003336 DISPOSITION-EDC 2

CONTAINMENT FEATURES OF A VIRUS ISOLATION FACILITY

BY- MAUPIN, PAUL AND RUNKLE, ROBERT S.

PUBLISHED-OCT67
IN- LABORATORY MANAGEMENT, V 5 N 10 P 26-29 OCTOBER 1967

AVAILABLE FROM- UNITED BUSINESS PUB., INC., 200 MADISON AVE., NEW YORK, N.Y. 10016

002 PAGES

DESCRIPTORS- *FACILITY REQUIREMENTS, *INFECTIOUS DISEASES, *LABORATORY SAFETY, *RESEARCH, *SCIENCE LABORATORIES, FACILITY CASE STUDIES, FACILITY GUIDELINES, LABORATORY EQUIPMENT, PHYSICAL DESIGN NEEDS, SAFETY EQUIPMENT, SCIENCE FACILITIES

A DESCRIPTION IS PRESENTED OF A VIRUS ISOLATION FACILITY DESIGNED IN ACCORDANCE WITH A PROGRAM OF REQUIREMENTS FORMULATED FOR MICROBIOLOGICAL CONTAMINATION CONTROL. DESIGN FEATURES ARE DESCRIBED WHICH PROVIDE THE REQUIRED DEGREES OF CONTAINMENT FOR HAZARDOUS PROCEDURES PERFORMED IN INFECTIOUS DISEASE RESEARCH. SAFEGUARDS ARE PRESENTED FOR PROTECTION OF THE INVESTIGATOR AND ASSOCIATED PERSONNEL, PROTECTION OF EQUIPMENT AND ANIMALS, AND PROTECTION OF THE EXTERIOR ENVIRONMENT. (FS)//

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New York, New York 10016

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OBSERVATIONS ON LABORATORY FACILITIES FOR BSCS HIGH SCHOOL BIOLOGY

BY- ABRAHAM, NORMAN AND NOVAK, ALFRED

PUBLISHED-SEP61
IN- BSCS NEWSLETTER, N9 P10-16 SEP 1961

AVAILABLE FROM- BIOLOGICAL SCIENCES CURRICULUM STUDY, UNIVERSITY OF COLORADO, BOULDER, COLORADO

006 PAGES

DESCRIPTORS- *SCHOOL VISITATION, *SCIENCE EDUCATION, *SCIENCE EQUIPMENT, *SCIENCE FACILITIES, *SCIENCE LABORATORIES, BIOLOGY, BUDGETS, CLASSROOM DESIGN, DESIGN NEEDS, EQUIPMENT STANDARDS, HIGH SCHOCLS

OBSERVATIONS ABOUT LABORATORY FACILITIES - CLASSROOMS AND EQUIPMENT - AND BUDGETING REQUIREMENTS FOR B.S.C.S. BIOLOGY PROGRAMS BASED UPON VISITS TO 105 HIGH SCHOOL BIOLOGY TEACHERS. PLANS FOR ALTERNATIVE LABORATORY ARRANGEMENTS ARE SUGGESTED, AS ARE MAJOR EQUIPMENT NEEDS. STANDARDS ARE OFFERED FOR BUDGETS, BUILDINGS, LABORATORIES AND EQUIPMENT. (FPO)

Availability:

Biological Sciences Curriculum Study
University of Colorado
Boulder, Colorado

ERIC/CEF DOCUMENT NO. EF002871 DISPOSITION-EDC 1

GUIDELINES FOR PLANNING BIOLOGICAL FACILITIES

047 PAGES

DESCRIPTORS- *BIBLIOGRAPHIES, *BIOLOGICAL SCIENCES, *FACILITY GUIDELINES, *PLANNING, *SCIENCE FACILITIES, AIR CONDITIONING, ARCHITECTURE, CHECK LISTS, CONSTRUCTION (PROCESS), CRITERIA, DESIGN, HEATING, SAFETY, SPACE UTILIZATION

A CLASSIFIED LIST OF ARTICLES, PAPERS, PAMPHLETS AND FACILITY CHECKLISTS IN THE SCIENCE FACILITIES COLLECTION OF THE ARCHITECTURAL SERVICES STAFF. PROFESSIONAL SUPPORT OF AN ADMINISTRATIVE NATURE IN THE AREAS OF ARCHITECTURAL DESIGN, ENGINEERING AND CONSTRUCTION IS PROVIDED BY THE STAFF. A BIBLIOGRAPHY IS INCLUDED, MAJOR HEADINGS BEING GENERAL PLANNING, SPACE UTILIZATION, COST STUDIES, SCIENCE BUILDING TYPE STUDIES, FACILITIES DESIGN CRITERIA, CONSTRUCTION DETAILS, AND NON-SCIENCE BUILDING TYPE STUDIES. (RK)//

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CHEMISTRY FACILITIES

ERIC/CEF DOCUMENT NO. EF003318 DISPOSITION-EDC 2

DESIGNING A CHEMICAL RESEARCH LABORATORY

PUBLISHED-MAR64

005 PAGES

DESCRIPTORS- *DESIGN NEEDS, *FACILITY CASE STUDIES, *FACILITY REQUIREMENTS, *FLEXIBLE FACILITIES, *SCIENCE LABORATORIES, DESIGN PREFERENCES, FACILITY GUIDELINES, LABORATORY EQUIPMENT, LABORATORY SAFETY, UTILITIES

DESIGN REQUIREMENTS FOR A CHEMICAL RESEARCH LABORATORY ARE DISCUSSED WITH REGARD TO--(1) THE DIVERSITY OF THE EXPERIMENTAL WORK, (2) THE UNUSUAL HAZARDS OF MATERIALS INVOLVED, AND (3) THE SECURITY REGULATIONS IMPOSED ON THE AEROSPACE INDUSTRIES BY GOVERNMENT REGULATION. A DESCRIPTION IS INCLUDED OF THE ORGANIZATION AND CONSTRUCTION OF THE CANOGA RESEARCH LABORATORY IN WHICH PROVISIONS FOR MAXIMUM FLEXIBILITY AND SAFETY WERE THE PRIMARY CONCERN IN THE DESIGN. EXAMPLES OF LABORATORY FLEXIBILITY ARE CITED, AND PROVISIONS ARE NOTED FOR UTILITIES SUPPLIES AND FOR SPECIAL INSTRUMENTATION. PHOTOGRAPHS ARE INCLUDED. (FS)//

Availability:

F.D. Thompson Publications, Inc.
205 West Wacker Drive
Chicago, Illinois 60606

ERIC/CEF DOCUMENT NO. EF001269 DISPOSITION-UFRC 1

BUILDING PROGRAM STATEMENT FOR THE GENERAL CHEMISTRY FACILITY (CHEMISTRY DEPARTMENT FACILITIES REQUIREMENTS THROUGH 31,000 STUDENTS)

BY- SHERWCOD, CHARLES AND ANDRE, H. AND MELLON, M. G. AND GRAHAM, J.
PURDUE UNIVERSITY, LAFAYETTE, INDIANA

PUBLISHED-APR67

108 PAGES

DESCRIPTORS- *CHEMISTRY INSTRUCTION, *EDUCATIONAL SPECIFICATIONS, *ENROLLMENT PROJECTIONS, *FACILITY REQUIREMENTS, *SCIENCE LABORATORIES, AUDIOLOGY, CLASSROOMS, COLLEGE BUILDINGS, RESEARCH, SPEECH EDUCATION

THIS BUILDING PROGRAM STATEMENT FOR THE NEW CHEMISTRY ADDITION AT PURDUE UNIVERIITY WAS COMPILED TO PROVIDE THE ARCHITECT AND DEVELOPMENT PLANNING PERSONNEL WITH INFORMATION ABOUT ACADEMIC SPECIFICATIONS THAT COULD BE USED AS A BASIS FOR DESIGNING A NEW CHEMISTRY FACILITY. THE GENERAL PLAN IS BASED ON PROJECTED STUDENT ENROLLMENT. SPECIFIC PLANS ≠A≠, ≠B≠, AND ≠C≠ ARE BASED ON GRADUATE STUDENT ENROLLMENT. SPACE ALLOCATIONS FOR EACH DIVISION ARE DISCUSSED IN RELATION TO PLANS ≠A≠ AND ≠B≠. THE STATEMENT DISCUSSES BUILDING CHARACTERISTICS SUCH AS ACOUSTICS, AIR-CONDITIONING, BULLETIN BOARDS, BELLS, CLOCKS, ELECTRICAL EQUIPMENT, FLOORS, OFFICES, LABORATORIES, SAFETY, TELEPHONE AND TELEVISION CONDUIT. FACILITIES REQUIREMENTS RELATIVE TO CHEMISTRY ARE CLASSROOM SPACE, TEACHING LABORATORY SPACE, LABORATORY SERVICES, RESEARCH LABORATORY, OFFICE STORAGE AND LIBRARY SPACE. SPECIAL CONSIDERATIONS NECESSARY FOR THE AUDIOLOGY AND SPEECH SCIENCES--DEPARTMENT MISSION, STAFF AND SPACE DEPARTMENT, CLINIC, OFFICE, CONSULTATION SPACE, GRADUATE TEACHING LABORATORIES AND TELEVISION COMPLEX--ARE DISCUSSED. APPENDICES INCLUDE TABLES OF ENROLLMENT PROJECTIONSS AND SPACE REQUIREMENTS FOR THE DEPARTMENT OF CHEMISTRY, AUDIOLOGY AND SPEECH SCIENCES. (HH)

Availability:

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27

ERIC/CEF DOCUMENT NO. EF002239 DISPOSITION-EDC 1

BUILDING PROGRAM STATEMENT FOR THE CHEMISTRY ADDITION, AN ADDENDUM

BY- SHERWOOD, CHARLES, COMP. AND ANDRE, H. AND GRAHAM, J.
PURDUE UNIV., LAFAYETTE, IND., DEPT. OF SCHED-SPACE

PUBLISHED-DEC67

053 PAGES

DESCRIPTORS- *CHEMISTRY, *COLLEGE BUILDINGS, *FACILITY REQUIREMENTS, *LABORATORIES, *SPACE UTILIZATION, AUDIOLOGY, EDUCATIONAL FACILITIES, PLANNING, SPATIAL RELATIONSHIP

A GENERAL GUIDE TO THE ARCHITECT REGARDING THE ACADEMIC REQUIREMENTS FOR A CHEMISTRY FACILITY. SUBJECT ORGANIZATION IS IN TERMS OF--(1)GENERAL ACADEMIC BUILDING PLANNING CRITERIA,(2)THREE SUMMARIES OF SPACE REQUIRED,(3)SPECIFIC SPACE REQUIREMENTS, AND (4)FUNCTIONAL RELATIONSHIP DIAGRAMS. SPECIFIC ACADEMIC AREAS BEING RESEARCHED INCLUDE CHEMISTRY, AUDIOLOGY, AND SPEECH SCIENCES. (LD)//

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HOW AND WHY WE MODIFIED OUR R AND D LAB

PUBLISHED-MAR64

004 PAGES

DESCRIPTORS- *DESIGN PREFERENCES, *FACILITY IMPROVEMENT, *FACILITY REQUIREMENTS, *LABORATORY EQUIPMENT, *SCIENCE LABORATORIES, FACILITY GUIDELINES, INTERIOR SPACE, PHYSICAL DESIGN NEEDS, SPACE DIVIDERS

A DESCRIPTION IS PRESENTED OF AN EXTENSIVE REMODELING JOB DONE ON A DOW CHEMICAL COMPANY RESEARCH AND DEVELOPMENT LABORATORY. AFTER A CONSIDERATION OF WHY MODIFICATION WAS NECESSARY, DESIGN AND STRUCTURAL FEATURES ARE DESCRIBED, GIVING EMPHASIS TO THE FOLLOWING--(1) LAB BENCHES AND FURNITURE, (2) CABINET SYSTEM OF CONCEALING SERVICE PIPING, (3) STORAGE CABINETS, (4) FUME HOODS WITH EXHAUST FANS, (5) INTERIOR PARTITIONS, AND (6) UTILITIES. PHOTOGRAPHS ARE INCLUDED. (FS)//

Availability:

F.D. Thompson Publications, Inc.
205 West Wacker Drive
Chicago, Illinois 60606

ERIC/CEF DOCUMENT NO. EF003477 DISPOSITION-EDC 2

SECONDARY SCHOOL CHEMISTRY LABORATORY DESIGN, AN APPROACH. SCHOOL BUILDING DIGEST.

BY- VICKERY, D. J.

ASIAN REGIONAL INST. FOR SCHOOL BUILDING RESEARCH,COLOMBO (CEYLON)

PUBLISHED-FEB69

AVAILABLE FROM- ASIAN REGIONAL INST. FOR SCHOOL BUILDING RESEARCH, (SPONSORED BY UNESCO) P.O. BOX 1368, COLOMBO (CEYLON)

002 PAGES

DESCRIPTORS- *CHEMISTRY INSTRUCTION, *FURNITURE DESIGN, *LABORATORY EQUIPMENT, *SECONDARY SCHOOLS, LABORATORY PROCEDURES, RURAL SCHOOLS, STUDENT MOTIVATION, TEACHING TECHNIQUES

NEW TEACHING TECHNIQUES HAVE CHANGED THE APPEARANCE OF THE SECONDARY SCHOOL CHEMISTRY LABORATORIES IN ASIA. STUDENT INQUIRY AND PROBLEM-CENTERED LEARNING IS DISPLACING THE LECTURE-DEMONSTRATION EDUCATION TECHNIQUE. THIS APPROACH GENERATED A NEED FOR A NEW TYPE OF CHEMISTRY LABORATORY BENCH. A MOVABLE, MECHANICALLY INDEPENDENT, HEXAGONAL-SHAPED BENCH WHICH FACILITATED THE FORMATION OF FIVE MEMBER STUDENT GROUPS WAS DESIGNED. BEING MECHANICALLY INDEPENDENT MADE THE BENCH APPLICABLE TO THE REMOTE RURAL REGIONS OF ASIA, WHERE, WITH SLIGHT MODIFICATIONS, IT PROVED SUCCESSFUL IN FIELD TESTS. SKETCHES OF A TYPICAL CLASSROOM AND BENCH HELP EXPLAIN THE GENERAL CONCEPTS. (TC)//

Availability:

Asian Regional Institute for School Building Research
P.O. Box 1368
Colombo, Ceylon

ERIC/CEF COCUMENT NO. EF003338 DISPOSITION-EDC 2

NEW CORNELL CLASS-LAB SAVES SPACE AND MONEY

PUBLISHED-MAR66
IN- CHEMICAL AND ENGINEERING NEWS, P 40-41 MARCH 28, 1966

AVAILABLE FROM- AMERICAN CHEMICAL SOCIETY, 1155 16TH STREET, N.W., WASHINGTON, D.C.

002 PAGES

DESCRIPTORS- *FACILITY CASE STUDIES, *FLEXIBLE FACILITIES, *LABORATORY EQUIPMENT, *MULTIPURPOSE CLASSROOMS, *SCIFNCE LABORATORIES, CLASSROOM DESIGN, FLEXIBLE CLASSROOMS

DESIGN AND FUNCTIONAL FEATURES ARE DESCRIBED FOR CORNELL UNIVERSITYS CHEMISTRY CLASSROOM-LABORATORY UNITS. EMPHASIS IS GIVEN TO SPACE AND MONEY ECONOMIES AFFORDED BY THE MULTIPURPOSE UNITS OR MODULES, WHICH ARE CONSIDERABLY SMALLER THAN THE PREVIOUS LABS. DESIRABLE FEATURES ARE ALSO NOTED FOR THE LABORATORY EQUIPMENT (WORK BENCHES, EXHAUST HOODS, STORAGE DRAWERS, AND UTILITIES). (FS)//

Availability:

American Chemical Society
1155 Sixteenth Street N.W.
Washington, D.C.

ERIC/CEF COCUMENT NO. EF001255 DISPOSITION-EDC- 2

FUME HOODS FOR SCIENCE LABORATORIES (AN ARCHITECTURAL PRIMER)

BY- HOROWITZ, HAROLD AND HEIDER, S. A. AND DUGAN, CALDWELL N.
AMERICAN INSTITUTE OF ARCHITECTS, WASHINGTON, D. C.

PUBLISHED-JUL65

008 PAGES

DESCRIPTORS- *BUILDING DESIGN, *FACILITY GUIDELINES, *SCHOOL SAFETY, *SCIENCE LABORATORIES, *VENTILATION, LABORATORIES, SCIENCE EQUIPMENT

OBJECTIVE OF THIS ARTICLE IS TO PRESENT A BRIEF OUTLINE OF PRINCIPLES FOR SATISFACTORY USE OF FUME HOODS IN SCIENCE LABORATORY DESIGN. IT IS INTENDED TO SERVE AS AN INTRODUCTION FOR ARCHITECTS AND DESIGNERS ON THE IMPORTANCE OF APPROPRIATE DESIGN OF FUME HOODS TO INSURE SAFETY. INCLUDES--(1)SELECTION OF FUME HOODS,(2)LOCATION OF THE FUME HOOD IN THE LABORATORY,(3)TESTING AND ADJUSTMENT,(4)FUME HOOD EXHAUST SYSTEMS,(5)HAZARDS ASSOCIATED WITH FUME HOOD DISCHARGES,(6)ADDITIONAL INFORMATION,(7)BIBLIOGRAPHY. (RH)//

Availability:

Amerian Insitute of Architects
1735 New York Avenue, N.W.
Washington, D.C. 20006

ERIC/CEF DOCUMENT NO. EF001461 DISPOSITION-EDC- 1

HOODS FOR SCIENCE LABORATORIES

BY- HOROWITZ, HAROLD AND HEIDER, S. A. AND DUGAN, CALDWELL N.
THE CHEMICAL RUBBER COMPANY, CLEVELAND, OHIO

IN- REPRODUCED FROM THE HANDBOOK OF LABORATORY SAFETY

12 PAGES

DESCRIPTORS- *LABORATORY EQUIPMENT, *SCIENCE FACILITIES, *VENTILATION, LABORATORIES, LABORATORY SAFETY, SAFETY, SCIENCE EQUIPMENT, SCIENCE LABORATORIES

DETAILED DISCUSSIONS ARE PRESENTED DEALING WITH THE SELECTION AND DESIGN OF FUME HOODS FOR SCIENCE LABORATORIES. AREAS COVERED INCLUDE--(1) AIR FLOW DESIGN, (2) MATERIALS PROPERTIES, (3) LOCATION IN THE LAB, (4) TESTING AND ADJUSTMENT, (5) EXHAUST SYSTEMS, AND (6) HAZARDS OF FUME DISCHARGES. (JT)////

Availability:

Order from EDRS as: ED 021 405
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ERIC/CEF COCUMENT NO. EF003229 DISPOSITION-EDC 2

STATIC AIR PRESSURE ISNT ALWAYS STATIC. LABORATORY DESIGN NOTES. JULY 1965

PUBLISHED-NOV65

003 PAGES

DESCRIPTORS- *AIR FLOW, *FACILITY GUIDELINES, *LABORATORY SAFETY, *SCIENCE LABORATORIES, *VENTILATION, FACILITY REQUIREMENTS, LABORATORY EQUIPMENT, PHYSICAL DESIGN NEEDS, SAFETY EQUIPMENT, SCIENCE FACILITIES

INFORMATION IS PRESENTED CONCERNING AIR PRESSURE AND FAN PERFORMANCE IN RELATION TO THE EFFECTIVE VENTILATION AND FUME REMOVAL WITHIN A BUILDING.THIS INFORMATION IS INTENDED FOR USE IN DESIGNING LABORATORY FACILITIES IN WHICH THE RE-ENTRY OF FUMES IS PREVENTED. (FS)//

Availability:

Office of Architecture and Engineering
Div. of Research Facilities & Resources
National Institute of Health
Bethesda, Maryland 20014

ERIC/CEF DOCUMENT NO. EF003225 DISPOSITION-EDC 2

FUME HOOD EXHAUST SYSTEMS. LABORATORY DESIGN NOTES

DEPT OF HEALTH, EDUCATION AND WELFARE, WASHINGTON, D.C., PUBLIC HEALTH SERVICE

PUBLISHED- 66
IN- LABORATORY DESIGN NOTES

AVAILABLE FROM- OFFICE OF ARCHITECTURE AND ENGINEERING, DIV. OF RESEARCH FACILITIES AND RESOURCES, NATIONAL INSTITUTE OF HEALTH, BETHESDA, MARYLAND 20014

004 PAGES

DESCRIPTORS- *FACILITY GUIDELINES, *LABORATORY EQUIPMENT, *LABORATORY SAFETY , *SCIENCE LABORATORIES, *VENTILATION, AIR POLLUTION CONTROL, EQUIPMENT STANDARDS , FACILITY REQUIREMENTS, PHYSICAL DESIGN NEEDS, SAFETY EQUIPMENT, SCIENCE EQUIPMENT

AN OUTLINE IS PRESENTED OF THE OPINIONS OF DESIGN,MAINTENANCE,CONSTRUCTION,AND ENVIRONMENTAL ENGINEERS CONCERNING FUME HOOD EXHAUST SYSTEMS.THE MATERIAL IS BASED PRIMARILY ON EXPERIENCE OF ACTUAL OR PROPOSED INSTALLATIONS.CONSIDERATION IS GIVEN TO THE FUNCTIONAL DESIGN OF FUME HOOD EXHAUST SYSTEMS AND MATERIALS USED IN FUME HOOD EXHAUST SYSTEMS. (FS)//

Availability:

Office of Architecture and Engineering
Div. of Research Facilities and Resources
National Institute of Health
Bethesda, Maryland 20014

ERIC/CEF DOCUMENT NO. EF003194 DISPOSITION-EDC 2

STUDY SHOWS HOW TO SELECT LAB HOODS TO CUT COOLING COSTS (WITH COMMENTS)

BY- LYNCH, JEREMIAH R.

PUBLISHED-JAN67
IN- COMMENTS ON ARTICLE IN MAY ISSUE ARE INCLUDED

AVAILABLE FROM- HEATING, PIPING AND AIR CONDITIONING, 10 S. LA SALLE ST., CHICAGO, ILLINOIS 60603

009 PAGES

DESCRIPTORS- #AIR CONDITIONING, #LABORATORY EQUIPMENT, #LABORATORY SAFETY, #SCIENCE LABORATORIES, #VENTILATION, EXHAUSTING, FACILITY GUIDELINES, FACILITY REQUIREMENTS, PHYSICAL DESIGN NEEDS, SAFETY EQUIPMENT, SCIENCE EQUIPMENT

BASED ON A HYPOTHETICAL LABORATORY DESCRIBED IN THE TEXT, A GUIDE IS PRESENTED FOR THE ANALYSIS AND SELECTION OF FUME REMOVAL ALTERNATIVES THAT RESULT IN ADEQUATE YET ECONOMICAL LABORATORY AIR CONDITIONING DESIGN. PROCEDURES ARE SUGGESTED FOR DETERMINING THE MOST ECONOMICAL SYSTEM TO INSTALL AND OPERATE. DISCUSSIONS OF THE ARTICLE ARE INCLUDED, ALONG WITH THE AUTHOR'S RESPONSES TO THE COMMENTS. (FS)//

Availability:

Heating, Piping, and Air Conditioning
10 South La Salle Street
Chicago, Illinois 60603

ERIC/CEF DOCUMENT NO. EF003339 DISPOSITION-EDC 2

LABORATORY FUME HOODS AND THEIR EXHAUST SYSTEMS

BY- PETERSON, J.E. AND PEAY, J.A.

PUBLISHED-MAY63
IN- AIR OCNDITIONING, HEATING AND VENTILATING, P 63-72 MAY 1963

AVAILABLE FROM- INDUSTRIAL PRESS, 200 MADISON AVE., NEW YORK, N.Y. 10016

010 PAGES

DESCRIPTORS- *EXHAUSTING, *FACILITY GUIDELINES, *LABORATORY EQUIPMENT, *LABORATORY SAFETY, *SCIENCE LABORATORIES, *VENTILATION, AIR FLOW, EQUIPMENT STANDARDS, FACILITY REQUIREMENTS, PHYSICAL DESIGN NEEDS, SAFETY EQUIPMENT, SCIENCE FACILITIES

A COMPREHENSIVE DISCUSSION IS PRESENTED OF CONSIDERATIONS IN THE DESIGN AND SELECTION OF LABORATORY HOODS (EXHAUSTED FUME ENCLOSURES NORMALLY FOUND IN LABORATORIES). THE FOLLOWING ARE AMONG THE IMPORTANT FEATURES GIVEN EMPHASIS--(1) MATERIALS OF CONSTRUCTION, (2) SAFETY DEVICES, (3) ACCESSORIES, (4) HOOD DESIGN AND LOCATION, (5) EXHAUST HOOD COMPONENTS, (6) INSPECTION AND BALANCING OF NEW INSTALLATIONS, AND (7) PREVENTIVE MAINTENANCE TIPS. (FS)//

Availability:

Industrial Press
200 Madison Avenue
New York, New York 10016

PHYSICS FACILITIES

ERIC/CEF DOCUMENT NO. EF002512 DISPOSITION-UFRC 2

CHECKLIST FOR PHYSICS BUILDINGS

AMERICAN INSTITUTE OF PHYSICS, NEW YORK, N.Y.

PUBLISHED-MAY65

024 PAGES

DESCRIPTORS- *CHECKLISTS, *COLLEGE BUILDINGS, *EDUCATIONAL EQUIPMENT, *FACILITY GUIDELINES, *PHYSICS INSTRUCTION, BIBLIOGRAPHIES, CLASSROOMS, LABORATORIES, LABORATORY EQUIPMENT

THIS CHECKLIST WAS COMPILED IN ORDER TO PREVENT PLANNERS FROM UNINTENTIONALLY OVERLOOKING IMPORTANT FEATURES OF BUILDING DESIGN IN PHYSICS AS WELL AS TO ENCOURAGE CONSULTATION BETWEEN ARCHITECT AND CLIENT. TWENTY-EIGHT CATEGORIES OF FACILITIES ARE COVERED RANGING FROM GENERAL STRUCTURAL CONSIDERATIONS TO FACULTY OFFICES AND INCLUDING ENVIRONMENTAL CONSIDERATIONS, VARIOUS TYPES OF ROOMS AND LABORATORIES, UTILITIES, HARDWARE, ETC. A BIBLIOGRAPHY OF REFERENCE MATERIAL IS INCLUDED. (N.I.)

Availability:

American Institute of Physics
335 East 45th Street
New York, New York 10017

ERIC/CEF DOCUMENT NO. EF002506 DISPOSITION-EDC 2

PHYSICS BUILDINGS TODAY, A SUPPLEMENT TO MODERN PHYSICS BUILDINGS--DESIGN AND FUNCTION

AMERICAN INSTITUTE OF PHYSICS, NEW YORK, N.Y.

PUBLISHED-JUL65

064 PAGES

DESCRIPTORS- *COLLEGE BUILDINGS, *PHYSICS, *SCIENCE FACILITIES, BUILDING INNOVATION, MECHANICAL EQUIPMENT, SCINECE EQUIPMENT, SCINECE LABORATORIES

A REVIEW OF 26 EXAMPLES OF BUILDINGS WITH PHYSICS FACILITIES EMPHASIZES UNUSUAL ARCHITECTURAL AND CONCEPTUAL FEATURES. INCLUDED IN EACH EXAMPLE ARE--(1) INSTITUTIONAL STATISTICS, (2) ARCHITECTURAL DATA AND STATISTICS, (3) EXPLANATORY TEXT FOR HIGHLIGHTED FEATURES, (4) PHOTOGRAPHS, (5) FLOOR PLANS, AND (6) DIAGRAMS. ARCHITECTURAL EMPHASIS IS PLACED ON--(1) MECHANICAL EQUIPMENT SOLUTIONS, (2) PLAN SCHEMES, AND (3) SPATIAL AMENITIES. (MH)

Availability:

American Institute of Physics
335 East 45th Street
New York, New York 10017

ERIC/CEF COCUMENT NO. EF001264 DISPOSITION-UFRC 2

PRINCETON UNIVERSITY ACADEMIC PHYSICAL PLANT (DEPARTMENTS OF MATHEMATICS AND PHYSICS)

TAYLOR, LIEBERFELD AND HELDMAN, INC., NEW YORK, NEW YORK

PUBLISHED-JAN61

125 PAGES

DESCRIPTORS- #BUILDING INNOVATION, #COLLEGE BUILDINGS, #CONSTRUCTION NEEDS, #FACILITY UTILIZATION RESEARCH, #SCIENCE FACILITIES, CLASSROOMS, LABORATORIES, LIBRARIES, MATHEMATICS, PHYSICS

THIS REPORT WAS PREPARED BY THE CONSULTING FIRM OF TAYLOR, LIEBERFELD AND HELDMAN, INC. FOR PRINCETON UNIVERSITY TO PROPOSE A BUILDING PROGRAM WHICH WOULD SATISFY THE SPACE NEEDS OF THE MATHEMATICS AND PHYSICS DEPARTMENTS. THE PROPOSED PROGRAM OF RENOVATION AND NEW CONSTRUCTION TOOK INTO ACCOUNT--(1) ENROLLMENT EXPECTATION, (2) RELATIONSHIP OF TEACHING AND RESEARCH, (3) PHASING OUT OF PRESENT TEMPORARY BUILDINGS, AND (4) SPECIALIZED LIBRARY NEEDS. THE UTILIZATION DATA WAS COLLECTED BY CATEGORIES--(1) REGISTRATION, (2) NUMBER OF COURSE OFFERINGS, (3) SIZE AND NUMBER OF MEETINGS/WEEK, (4) SPACE REQUIREMENTS AND SPACE AVAILABILITY FOR OFFICES, LABORATORIES, CLASSROOMS, RESEARCH, STORAGE, (5) COMMON SERVICE SPACE REQUIREMENTS, AND (6) USE OF LIBRARY. THE RECOMMENDATIONS OF THE CONSULTANTS FOCUSED ON--(1) SPECIFIC SPACE NEEDS FOR EACH DEPARTMENT, (2) NEW SPACE THAT SHOULD BE CONSTRUCTED, AND (3) DISTRIBUTION OF SPACE TO THE TWO DEPARTMENTS BASED ON PROJECTED ENROLLMENTS IN THE TWO DEPARTMENTS. TABLES RELATING TO THE ABOVE AREAS ARE INCLUDED. (HH)

Availability:

Department of Mathematics
Princeton University
Princeton, New Jersey

ERIC/CEF DOCUMENT NO. EF001341 DISPOSITION-EDC- 1

MODERN PHYSICS BUILDINGS (DESIGN AND FUNCTION)

BY- PALMER, R. RONALD AND RICE, WILLIAM MAXWELL
AMERICAN ASSOCIATION OF PHYSICS TEACHERS, WASHINGTON D. C.

PUBLISHED- 61
IN- PROGRESSIVE ARCHITECTURE LIBRARY

DESCRIPTORS- *BUILDING DESIGN, *SCIENCE FACILITIES, LABORATORY EQUIPMENT, SCIENCE EQUIPMENT, SCIENCE LABORATORIES

IN ORDER TO SERVE COLLEGE ADMINISTRATORS, ARCHITECTS AND PHYSICS EDUCATORS, A COLLECTION WAS MADE OFMATERIAL REFLECTING THE STATE-OF-THE-ART OF PHYSICS BUILDING DESIGN. THIS BODY OF MATERIAL, INCLUDING DRAWINGS, DIAGRAMS, AND PHOTOGRAPHS, RESULTED LARGELY FROM EXTENSIVE INTERVIEWS WITH ABOUT 50 INSTITUTIONS WHO HAD RECENTLY BUILT SUCH FACILITIES. ALL PHASES OF PLANNING AND CONSTRUCTING PHYSICS BUILDINGS ARE DISCUSSED. (JT)////

Availability:

Reinhold Book Corporation
430 Park Avenue
New York, New York 10022

ERIC/CEF DOCUMENT NO. EF001365 DISPOSITION-EDC- 2

SELECTED REPRINTS OF ARTICLES ON PHYSICS BUILDINGS (. PROJECT ON DESIGN OF PHYSICS BUILDINGS)

BY- MAJOR, JOHN K. AND ROOTS, YALE K. AND TAYLOR, WALTER A.
AMERICAN INSTITUTE OF PHYSICS, NEW YORK, N. Y.

PUBLISHED-JUN59

185 PAGES

DESCRIPTORS- *BUILDING DESIGN, *SCIENCE FACILITIES, LABORATORY EQUIPMENT, SCIENCE EQUIPMENT, SCIENCE LABORATORIES

A PRELIMINARY SURVEY OF SOME OF THE MATERIAL RELEASED IN THE SUMMER OF 1960 UNDER THE TITLE OF ≠PROJECT ON THE DESIGN OF PHYSICS BUILDINGS≠ IS PRESENTED FOR THOSE WHO CANNOT AWAIT THE RELEASE OF THE FULL REPORT. INCLUDED IS A WIDE RANGE OF ARTICLES UNDER THE GENERAL HEADINGS OF--(1) THE PHYSICS BUILDING, (2) THE SCIENCE BUILDING, (3) SPECIAL FACILITIES, AND (4) GENERAL PLANNING. THE DOCUMENT CONTAINS PHOTOS, DRAWINGS, AND DIAGRAMS WHERE PERTINENT. (JT)

Availability:

American Institute of Physics
335 East 45th Street
New York, New York 10017

ERIC/CEF DOCUMENT NO. EF003180 DISPOSITION-EDC 2

DESIGN AND CONSTRUCTION OF A CLEAN ROOM FOR MICROELECTRONICS FACILITY

BY- KIND, WILLIAM O.

PUBLISHED-JUN66
IN- HEATING, PIPING AND AIR CONDITIONING, P 103-108 JUNE 1966

AVAILABLE FROM- REINHOLD PUB. CORP., 10 S. LA SALLE ST., CHICAGO, ILLINOIS 60603

006 PAGES

DESCRIPTORS- *DESIGN NEEDS, *FACILITY GUIDELINES, *LABORATORY EQUIPMENT, *SCIENCE FACILITIES, *SCIENCE LABORATORIES, AIR CONDITIONING, CONSTRUCTION (PROCESS), CONTROLLED ENVIRONMENT, EXHAUSTING, FACILITY EXPANSION, FACILITY REQUIREMENTS, FLOORING, UTILITIES

A DESCRIPTION IS PRESENTED OF THE DESIGN AND CONSTRUCTION OF A CLEAN ROOM FOR A NEW MICROELECTRONIC EQUIPMENT FABRICATION FACILITY FOR THE ITT FEDERAL LABORATORIES. SOLUTIONS ARE PRESENTED TO PROBLEMS IMPOSED BY SITE, REQUIREMENTS, AND SCHEDULING. SOME OF THE FEATURES OF THE FACILITY TO WHICH SPECIAL CONSIDERATION IS GIVEN INCLUDE THE FOLLOWING--(1) AIR CONDITIONING SYSTEM, (2) AUDIO INSULATION, (3) LAMINAR FLOW, (4) EXHAUST SYSTEM, (5) WATER SUPPLY, (6) FLOOR COVERING, AND (7) LIGHTING. (FS)//

Availability:

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10 South La Salle Street
Chicago, Illinois 60603

ERIC/CEF COCUMENT NO. EF002609 DISPOSITION-EDC 2

THE DESIGN OF PHYSICS LABORATORIES FOR ASIAN SECOND LEVEL SCHOOLS. ASIAN REGIONAL INSTITUTE FOR SCHOOL BUILDING RESEARCH STUDY NO 4

BY- YU, C.C. AND VICKERY, D.J.
ASIAN REGIONAL INSTITUTE FOR SCHOOL BUILDING RESEARCH, COLOMBO

PUBLISHED- 68

093 PAGES

DESCRIPTORS- #FACILITIES UTILIZATION RESEARCH, #LABORATORIES, #PHYSICS, #SECONDARY SCHOOLS, #TEACHING METHODS, BUILDING PLANS, CLASSROOM ENVIRONMENT, CLASSROOM FURNITURE, EDUCATIONAL ECONOMICS, EDUCATIONAL ENVIRONMENT, FLEXIBLE FACILITIES, LABORATORY EQUIPMENT, LABORATORY PROCEDURES, PHYSICS EXPERIMENTS, SCHOOL DESIGN, SCHOOL PLANNING, SCIENCE EQUIPMENT

DESCRIBED ARE THE FUNCTIONS, EQUIPMENT, FURNISHINGS, AND DESIGN OF SPACES FOR PHYSICS TEACHING IN LOWER AND HIGHER SECONDARY SCHOOLS. PHYSICS LABORATORIES ARE IN NEED OF--(1) MOVABLE FURNITURE, (2) GROUP FACILITIES, (3) VISUAL DISPLAY AREAS, AND (4) BENCHES AND WORK SURFACES. FLOOR PLANS, PHOTOGRAPHS, AND DIAGRAMS ARE INCLUDED. (TG)//

Availability:

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ERIC/CEF DOCUMENT NO. EF003250 DISPOSITION-EDC 3

I-R LABORATORY OF THE YEAR. BELL TELEPHONE LABORATORIES HOLMDEL (N.J.) FACILITY CITED FOR DESIGN, AESTHETICS, AND FUNCTIONAL ARRANGEMENT BY R AND D-ARCHITECT PANEL.

BY- KEEPING, GRAEME G.

PUBLISHED-MAY67
IN- INDUSTRIAL RESEARCH, P 65-67, MAY 1967

AVAILABLE FROM- INDUSTRIAL RESEARCH, INC., BEVERLY SHORES, INDIANA 46301

003 PAGES

DESCRIPTORS- *ARCHITECTURAL CHARACTER, *BUILDING DESIGN, *FACILITY CASE STUDIES, *FLEXIBLE FACILITIES, *SCIENCE LABORATORIES, CORRIDORS, DESIGN PREFERENCES, MOVABLE PARTITIONS

DESIGN, AESTHETIC, AND FUNCTIONAL FEATURES ARE DESCRIBED FOR BELL TELEPHONE LABORATORIES, HOLINDEL, NEW JERSEY, FACILITY. DESIGN CRITERIA ARE CITED, AND EMPHASIS IS GIVEN TO--(1) FLEXIBILITY PROVIDED BY THE PORTABLE UTILITY WALLS, (2) THE ENCLOSED COURTYARD, (3) THE EXTERNAL CORRIDORS, AND (4) FEATURES CREATING EASE OF ACCESS. PHOTOGRAPHS ARE INCLUDED. (FS)//

Availability:

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Beverly Shores, Indiana 46301

ASTRONOMY FACILITIES

ERIC/CEF DOCUMENT NO. EF003256 DISPOSITION-CERS 2

PLANETARIUM PLANNING FOLDER

SPITZ LABORATORIES, YORKLYN, DELAWARE

PUBLISHED- 68

AVAILABLE FROM- SPITZ LABORATORIES, YORKLYN, DELAWARE

112 PAGES

DESCRIPTORS- *EQUIPMENT STANDARDS, *EQUIPMENT UTILIZATION, *PLANETARIUMS, *SCIENCE FACILITIES, *SCIENCE TEACHING CENTERS, RESOURCE GUIDES, RESOURCE MATERIALS

A FOLDER CONTAINING MATERIALS RANGING FROM PROMOTIONAL LITERATURE TO EQUIPMENT SPECIFICATIONS ABOUT THE SPITZ PLANETARIUM AND ITS USE AS AN EDUCATIONAL RESOURCE. (FPO)//

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SPITZ MODEL A4. PLANETARIUM

SPITZ LABCRATORIES, INC. YORKLYN, DELAWARE

PUBLISHED- 68

AVAILABLE FROM- SPITZ LABORATORIES, INC. YORKLYN, DELAWARE

012 PAGES

DESCRIPTORS- *ELECTROMECHANICAL AIDS, *MECHANICAL TEACHING AIDS, *PLANETARIUMS, *SCIENCE EDUCATION, *SCIENCE EQUIPMENT, ASTRONOMY, SCIENCE FACILITIES, SCIENCE FACILITIES TEACHING CENTERS

DESCRIPTIONS OF KEY EDUCATIONAL FEATURES OF THE SPITZ MODEL A4 PLANETARIUM ARE PRESENTED ALONG WITH DESCRIPTIONS OF THE DESIGN FEATURES OF THE INSTRUMENT. PHOTOGRAPHS DEPICTING THE VARIOUS OCMPONENTS OF THE INSTRUMENT ARE INCLUDED. (FS)//

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THE USE AND FUNCTION OF THE PLANETARIUM IN ELEMENTARY AND SECONDARY INSTRUCTION

SPITZ LABORATORIES, INC.

PUBLISHED- 68

AVAILABLE FROM- SPITZ LABORATORIES, INC.

008 PAGES

DESCRIPTORS- *PLANETARIUMS, *SCIENCE EDUCATION, *SCIENCE FACILITIES, *SCIENCE PROGRAMS, *SCIENCE TEACHING CENTERS, ASTRONOMY, ELEMENTARY SCHOOL SCIENCE, SCIENCE EQUIPMENT, SCIENCE LABORATORIES, SECONDARY SCHOOL SCIENCE

A BRIEF EDUCATIONAL RATIONALE IS PRESENTED FOR THE INCLUSION OF A PLANETARIUM IN ELEMENTARY AND SECONDARY INSTRUCTION. NOTES ARE GIVEN FOR THE FOLLOWING--(1) THE ELEMENTS COMPRISING AN EDUCATIONAL-BASED PLANETARIUM, (2) PROGRAM OBJECTIVES, AND (3) TOPICS AND CONCEPTS APPLICABLE TO THE PLANETARIUM CURRICULUM FOR THE ELEMENTARY AND SECONDARY LEVELS. (FS)//

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ERIC/CEF COCUMENT NO. EF003221 DISPOSITION-EDC 2

THE ATMOSPHERIUM-PLANETARIUM-A UNIQUE FACILITY AND ITS EDUCATIONAL POTENTIAL

BY- JOHNS, KENNETH W. AND NORTON, O. RICHARD

PUBLISHED-SEP67

002 PAGES

DESCRIPTORS- *EDUCATIONAL FACILITIES, *PLANETARIUMS, *SCIENCE EDUCATION, *SCIENCE FACILITIES, *SCIENCE TEACHING CENTERS, ASTRONOMY, DEMONSTRATION CENTERS, EDUCATIONAL EQUIPMENT, MARINE BIOLOGY, METEOROLOGY, OCEANOLOGY

THE NATION*S ONLY ATMOSPHERIUM-PLANETARIUM WAS CONSTRUCTED IN NEVADA FOR USE BY SCHOOLS, YOUTH GROUPS, AND THE GENERAL PUBLIC. SCME SPECIAL FEATURES OF THE PROJECT INCLUDE A MOTION PICTURE PROJECTOR CAPABLE OF COVERING 180 DEGREES OF THE DOME INTERIOR, A LENS CREATING ENLARGEMENTS 640,000 TIMES THE ORIGINAL, AND A SOLAR ENERGY HEATING SYSTEM. THE FACILITY IS EXPECTED TO PROVIDE FOR SEVERAL TYPES OF LEARNING PROGRAMS, THE MOST INNOVATIVE BEING CLASSES IN MARINE BIOLOGY AND RELATED OCEANOGRAPHIC SCIENCES, ALL WELL WITHIN THE CAPABILITIES OF THE PROJECTOR AND LENS. IN ADDITION, CLASSES IN METEOROLOGY, ASTRONOMY, SPACE SCIENCE, AS WELL AS SUMMER TRAINING SESSIONS FOR PLANETARIUM CURATORS, ARE ANTICIPATED. A PHOTOGRAPH AND DIAGRAM ARE INCLUDED. (KK)//

Availability:

National Science Teachers' Association
1201 Sixteenth Street N.W.
Washington, D.C.

ERIC/CEF COCUMENT NO. EF003257 DISPOSITION-CERS 2

CONSTELLATION

CLARIN MANUFACTURING CO. CHICAGO

PUBLISHED- 68

REPORT/SERIES NO.- 05

031 PAGES

DESCRIPTORS- *CLASSROOM DESIGN, *CLASSROOM FURNITURE, *FURNITURE DESIGN, *PLANETARIUMS, *SCIENCE FACILITIES, CLASSROOM ARRANGEMENT, FACILITY GUIDELINES, SCIENCE EDUCATION, SCIENCE EQUIPMENT, SCIENCE TEACHING CENTERS

THE FEATURES OF THE FIBER GLASS SHELL CONSTELLATION SEAT ARE DECRIBED GIVING DETAILED SPECIFICATIONS OF THE MATERIALS AND DESIGN OF THESE SEATS,WHICH ARE UTILIZED IN PLANETARIUM-CLASSROOMS. TYPICAL SEATING PATTERNS FOR COMBINATION PLANETARIUM-CLASSROOMS ARE PRESENTED AND ARE SUPPLEMENTED WITH DIAGRAMATIC, SCALED PLANS. (FS)//

Availability:

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Chadds Ford, Pennsylvania 19317

ERIC/CEF DOCUMENT NO. EF003258 DISPOSITION-CERS 2

ARCHITECTS MANUAL PLANETARIUM CLASSROOM

SPITZ LABORATORIES, INC. YORKLYN, DELAWARE 19736

PUBLISHED-JUN68

REPORT/SERIES NO.- 05

032 PAGES

DESCRIPTORS- *CLASSROOM DESIGN, *EDUCATIONAL SPECIFICATIONS, *FACILITY GUIDELINES, *PLANETARIUMS, *SCIENCE FACILITIES, CLASSROOM ARRANGEMENT, MECHANICAL TEACHING AIDS, SCIENCE EDUCATION, SCIENCE EQUIPMENT, SCIENCE TEACHING CENTERS

FOLLOWING A CONSIDERATION OF THE GENERAL NATURE AND PURPOSE OF A PLANETARIUM, DESIGN FEATURES ARE PRESENTED FOR THE PRINCIPAL CONTENTS OF THE PLANETARIUM CHAMBER. SPACE REQUIREMENTS ARE NOTED, AND SPECIFICATIONS ARE RECOMMENDED FOR ASPECTS OF THE PLANETARIUM CLASSROOM SUCH AS ACOUSTICS, FLOORS, LIGHTING. THE SPITZ PERFORATED ALUMINUM PROJECTION DOMEIS DESCRIBED INCLUDING CONSIDERATION OF THE METHODS OF SUPPORT AND OPERATION. IN ADDITION, SPECIFICATIONS ARE PRESENTED FOR OTHER EQUIPMENT AND FEATURES OF THE PLANETARIUM. A SCHEMATIC ILLUSTRATION IS INCLUDED. (FS)//

Availability:

Spitz Laboratories
Route 1
Chadds Ford, Pennsylvania 19317

ERIC/CEF DOCUMENT NO. EF002901 DISPOSITION-CERS 2

QUAKERTOWN≠S BOARD TOOK A LONG-RANGE LOOK AND BUILT A PLANETARIUM

PUBLISHED-FEB69
IN- AMERICAN SCHOOL BOARD JOURNAL, V156 N8 P27-29 FEB 1969

AVAILABLE FROM- NATIONAL SCHOOL BOARD ASSOCIATION, 1233 CENTRAL STREET, EVANSTON, ILLINOIS 60201

003 PAGES

DESCRIPTORS- *EDUCATIONAL FINANCE, *PLANETARIUMS, *SCHOOL ADMINISTRATION, *SCHOOL DISTRICTS, *SCHOOL DISTRICT SPENDING, ASTRONOMY, EDUCATIONAL EQUIPMENT, EDUCATIONAL RESOURCES, EXPENDITURE PER STUDENT, LEARNING ACTIVITIES

AN ARTICLE WHICH DISCUSSES ONE COMMUNITY≠S EXPERIENCE IN TERMS OF COSTS, EDUCATIONAL USES, AND ADVANTAGES AS A RESULT OF INSTALLING A PLANETARIUM. (FPO)//

Availability:

National School Board Association
1233 Central Street
Evanston, Illinois 60201

ELEMENTARY AND SECONDARY SCHOOL SCIENCE FACILITIES

ERIC/CEF COCUMENT NO. EF003323 DISPOSITION-CERS 2

PLANNING A SCIENCE FACILITY

PUBLISHED-FEB67

003 PAGES

DESCRIPTORS- *ELEMENTARY SCHOOL SCIENCE, *FACILITY REQUIREMENTS, *SCIENCE EQUIPMENT, *SCIENCE FACILITIES, *SCIENCE LABORATORIES, CLASSROOM DESIGN, FACILITY GUIDELINES, SCIENCE ACTIVITIES, SCIENCE EQUIPMENT

A VARIETY OF WAYS AND POSSIBILITIES ARE EXPLORED IN WHICH THE DEVELOPMENT OF ELEMENTARY SCHOOL SCIENCE FACILITIES CAN BE REALIZED. SUGGESTIONS ARE OFFERED FOR ITEMS TO BE CONSIDERED IN PLANNING AND EQUIPPING SUCH FACILITIES. A CHECKLIST IS INCLUDED FOR AN ELEMENTARY SCIENCE FACILITY. (FS)

Availability:

National Science Teachers' Association
1201 Sixteenth Street N.W.
Washington, D.C.

ERIC/CEF DOCUMENT NO. EF003322 DISPOSITION-CERS 2

SCIENCE EXPERIENCE CENTER

BY- CARTER, NEAL W

PUBLISHED-FEB67
IN- SCIENCE AND CHILDREN, P 13-16 FEBRUARY 1967

AVAILABLE FROM- NATIONAL SCIENCE TEACHERS ASSOCIATION, 1201 SIXTEENTH STREET, N.W., WASHINGTON, D.C.

004 PAGES

DESCRIPTORS- *CLASSROOM DESIGN, *ELEMENTARY SCHOOL SCIENCE, *SCIENCE EQUIPMENT, *SCIENCE FACILITIES, *SCIENCE LABORATORIES, DEMONSTRATION CENTERS, SCIENCE ACTIVITIES, SCIENCE EXPERIMENTS

DESCRIPTIONS ARE PRESENTED OF VARIOUS DESIGN FEATURES AND TYPES OF EQUIPMENT INCLUDED IN AN ELEMENTARY SCHOOL SCIENCE EXPERIENCE CENTER--A FACILITY DESIGNED TO GIVE PUPILS AN OPPORTUNITY TO HAVE FIRSTHAND SCIENCE EXPERIENCES IN A LABORATORY ENVIRONMENT. PHOTOGRAPHS AND DIAGRAMATIC FLOOR PLANS OF THE FACILITY ARE INCLUDED. (FS)

Availability:

National Science Teachers' Association
1201 Sixteenth Street N.W.
Washington, D.C.

ERIC/CEF DOCUMENT NO. EF002689 DISPOSITION-CERS 2

FACILITIES, EQUIPMENT, AND INSTRUCTIONAL MATERIALS FOR THE SCIENCE PROGRAM

BY- MARTIN, W. EDGAR

NATIONAL SOCIETY FOR THE STUDY OF EDUCATION, CHICAGO, ILL

PUBLISHED- 60

029 PAGES

DESCRIPTORS- *GUIDELINES, *SCIENCE EDUCATION, *SCIENCE EQUIPMENT, *SCIENCE FACILITIES, *SCIENCE MATERIALS, EDUCATIONAL PHILOSOPHY, EDUCATIONAL PLANNING, ELEMENTARY EDUCATION, HIGH SCHOOL, MIDDLE SCHOOLS, SPECIFICATIONS, TRAINING

AN ARTICLE PRESENTING SOME GUIDELINES FOR EDUCATIONAL SUBPUBLICS IN PLANNING AND EQUIPPING NEW SCIENCE FACILITIES AND REMODELING OTHERS TO PROVIDE ADEQUATE SCIENCE INSTRUCTION. THE ARTICLE DISCUSSES TRENDS IN SCIENCE TEACHING, FACILITIES, EQUIPMENT, AND SPECIAL PROBLEMS. (FPO).

Availability:

National Society for the Study of Education
5835 Kimbrick Avenue
Chicago, Illinois 60637

ERIC/CEF DOCUMENT NO. EF000833 DISPOSITION-EDC- 1

ROOMS FOR DEVELOPMENTAL SCIENCE COURSES (2ND ED)

BY- RICHARDSON, JOHN S.
NATIONAL SCIENCE TEACHERS ASSOCIATION, WASHINGTON, D. C.

PUBLISHED- 61
IN- SCHOOL FACILITIES FOR SCIENCE INSTRUCTION

8 PAGES

DESCRIPTORS- #SCIENCE CURRICULUM, #SCIENCE FACILITIES, #SCIENCE INSTRUCTION, #SECONDARY SCHOOL SCIENCE, #FACILITY REQUIREMENTS, EQUIPMENT UTILIZATION, LABORATORY EQUIPMENT, PHYSICAL SCIENCES, SCIENCE EQUIPMENT, SCIENCE LABORATORIES

MANY HIGH SCHOOLS ARE BROADENING THEIR SCIENCE CURRICULUM WITH SPECIALIZED COURSES. THIS REPORT SURVEYS THE NATURE OF THESE COURSES AS BEING--(1) DEVELOPMENTAL, (2) APPLIED, AND (3) SPECIALIZED. A SURVEY OF THE SEPARATE SCIENCE COURSES REVEALS THAT ONLY A FEW CLEARLY FIT INTO THE ABOVE THREE CLASSIFICATIONS. MOST COURSES BY NATURE OVERLAP EITHER TWO OR THREE OF THESE CLASSIFICATIONS. THE REPORT CONTINUES BY DESCRIBING THE GENERAL NATURE OF FACILITIES FOR DEVELOPMENTAL SCIENCE COURSES. FACILITIES FOR A PHYSICAL SCIENCE LAB ARE EXAMINED. THE COURSE CONTENT IS DESCRIBED AND AN ANALYSIS OF THE CLASSROOM ACTIVITIES IS MADE. REQUIREMENTS FOR THE DESIGN OF THIS FACILITY ARE THEN DISCUSSED BASED ON THE ANALYSIS OF THE ACTIVITIES. A FUNDAMENTAL REQUIREMENT FOR MOST SCIENCE ROOMS IS FLEXIBILITY OF SPACE. EQUIPMENT, UTILITIES AND SERVICES FOR A PHYSICAL SCIENCE ROOM ARE QUITE SIMILAR TO THOSE USED FOR PHYSICS AND CHEMISTRY. HOWEVER, THERE IS AN ADDITIONAL NEED OF EQUIPMENT AND SERVICES FOR METEROLOGICAL AND ASTRONOMY ACTIVITIES. SOME PROVISIONS SHOULD BE MADE TO EQUIP THE LAB WITH A WEATHER STATION AND INSTRUMENTATION FOR THE STUDY OF ASTRONOMY. THE USUAL STORAGE PROVISIONS FOR SCIENCE ROOMS ARE ALSO REQUIRED FOR THE PHYSICAL SCIENCE ROOM. THE STRONG EMPHASIS ON EXPERIMENTATION AND INDEPENDENT INVESTIGATION IN THIS COURSE, REQUIRES PROVISIONS OF STORAGE SPACE FOR SUPPLIES NEEDED IN CURRENT INVESTIGATION AND FOR BOOKS AND OTHER INFORMATIONAL MATERIALS. A DISCUSSION ON REQUIREMENTS FOR CONSERVATION AND EARTH SCIENCE FACILITIES APPEARS IN THE FINAL SECTION. (RH)////

Availability:

Order from EDRS as: ED 019 811
MF $0.25 HC $0.50

ERIC/CEF DOCUMENT NO. EF000543 DISPOSITION-CERS 2

PLANNING SCIENCE FACILITIES FOR SECONDARY SCHOOLS

BY- EDSALL, LESLIE AND TEMPLETON, HUGH
STATE UNIVERSITY OF NEW YORK, ALBANY

PUBLISHED- 60
IN- I 134R-059-3500(44467)

019 PAGES

DESCRIPTORS- *EDUCATIONAL FACILITIES, *SCHOOL PLANNING, *SCIENCE EDUCATION, *SCIENCE FACILITIES, *SECONDARY SCHOOL SCIENCE, PLANNING, SCIENCE PROGRAMS, SCIENCE EQUIPMENT, GENERAL SCIENCE, CHEMISTRY, PHYSICS, BIOLOGY

LOCAL SCHOOL STAFF AND ARCHITECTS PREPARING PLANS OF NEW SECONDARY SCHOOLS OR REMODELING OLD ONES CAN GET ASSISTANCE FROM THIS SOURCE. PROVIDING ADEQUATE FACILITIES FOR SCIENCE IS ESSENTIAL TO KEEP ALIVE IN STUDENTS THE DESIRE TO SOLVE PROBLEMS OF SPECIAL INTEREST TO THEM. FIRST AMONG THE VARIOUS KINDS OF SPACES NEEDED IS THE GENERAL SCIENCE ROOM. PROVISION SHOULD BE MADE FOR 30 STUDENTS WITH NOT LESS THAN 840 SQUARE FEET FOR THE GROUP. PREPARATION-STORAGE ROOMS SHOULD BE AVAILABLE WHERE SMALL PROJECTS MAY BE LEFT WITHOUT FEAR OF MOLESTATION. A DARKROOM WITH AT LEAST 100 SQUARE FEET SHOULD BE AVAILABLE. BASIC FACILITIES FOR THAT ROOM ARE ESSENTIAL. AT LEAST 840 SQUARE FEET SHOULD BE PROVIDED FOR THE BIOLOGY ROOM. SPECIAL ATTENTION MUST BE GIVEN TO VENTILATION AND AVAILABILITY OF SUNSHINE. DISPLAY AREAS ARE NECESSARY. NO LESS THAN 1000 SQUARE FEET SHOULD BE PROVIDED FOR A PHYSICS ROOM. CEILING HOOKS, WORK COUNTERS, UTILITY CONNECTIONS, AND STORAGE AREAS MUST GET SPECIAL ATTENTION IN THIS AREA. COMBINATION CLASSROOM-LABORATORY FACILITIES ARE CURRENTLY THE TREND FOR CHEMISTRY. HERE, AS IN ALL SCIENCE FACILITIES, ATTENTION SHOULD BE GIVEN TO PROVIDING UTILITY CONNECTIONS. TWO FLOOR PLANS ARE INCLUDED IN THIS PUBLICATION.

Availability:

Division of School Buildings and Grounds
The State Education Department
The State University of New York
Albany, New York

ERIC/CEF DOCUMENT NO. EF002071 DISPOSITION-CERS 1

SCIENCE GUIDELINES FOR THE SECONDARY SCHOOLS OF ARKANSAS

ARKANSAS STATE DEPARTMENT OF EDUCATION, LITTLE ROCK

PUBLISHED- 66

033 PAGES

DESCRIPTORS- *BIBLIOGRAPHIES, *FURNITURE DESIGN, *SCIENCE FACILITIES, *SCIENCE LABORATORIES, *SECONDARY SCHOOLS, AUDIOVISUAL AIDS, CLASSROOM DESIGN, LABORATORY EQUIPMENT, LABORATORY SAFETY, SCIENCE MATERIALS

GUIDELINES FOR THE DEVELOPMENT OF SECONDARY SCHOOL SCIENCE PROGRAMS AND FACILITIES WHICH WILL AID IN THE REVIEW OF EXISTING AND PROPOSED PROGRAMS AND IN ADAPTING CLASSROOM INSTRUCTION TO THE NEEDS OF INDIVIDUAL PUPILS. SCIENCE FACILITIES ARE EMPHASIZED INCLUDING SPACE REQUIREMENTS, CLASSROOMS, LABORATORIES, UTILITIES, FURNITURE, AND AUDIOVISUAL MATERIALS. BASIC LISTS OF NECESSARY EQUIPMENT ARE GIVEN FOR GENERAL SCIENCE, BIOLOGY, CHEMISTRY, PHYSICS, AND EARTH SCIENCE, AS WELL AS SUPPLEMENTARY LISTS FOR ENRICHED PROGRAMS IN THOSE FIELDS. THE APPENDIX INCLUDES A BIBLIOGRAPHY OF BOOKS AND PERIODICALS DEALING WITH SCIENCE TEACHING PLUS SUGGESTED CLASSROOM, LABORATORY, AND COMBINED CLASSROOM-LABORATORY FLOOR PLANS. (NI)

Availability:

Order from EDRS as: ED 023 276
MF $0.25 HC $1.75

ERIC/CEF DOCUMENT NO. EF001960 DISPOSITION-EDC- 1

ASPECTS OF SPATIAL INFLUENCE ON SCIENCE TEACHING METHODS

BY- ENGELHARDT, DAVID FREDERIC
HARVARD UNIVERSITY, CAMBRIDGE, MASS., GRADUATE SCHOOL OF EDUCATION

PUBLISHED- 68

U.S. CONTRACT/GRANT NO.-OEG 1-6-062406-1401

DESCRIPTORS- *DESIGN NEEDS, *RESEARCH, *SCHOOL DESIGN, *SCIENCE FACILITIES, *SPACE UTILIZATION, BIOLOGY, COMPARATIVE ANALYSIS, EQUIPMENT STORAGE, INTERVIEWS, LIBRARIES, OUTDOOR EDUCATION, QUESTIONNAIRES, SCIENCE EQUIPMENT, SCIENCE LABORATORIES, SMALL GROUP INSTRUCTION, SPATIAL RELATIONSHIP

A NUMBER OF ASPECTS OF THE RELATIONSHIPS BETWEEN CHARACTERISTICS OF ARCHITECTURAL SPACE AND SCIENCE TEACHING METHODS IN SECONDARY SCHOOLS WERE INVESTIGATED USING TEACHER QUESTIONNAIRE RESPONSE AND INTERVIEWS FOR COMPARATIVE FACILITIES. SIGNIFICANT FACTORS INCLUDE--(1) THE PROVISION OF CLASSROOM-LABORATORIES, (2) PROXIMITY OF THE LIBRARY, (3) SIZE OF LABORATORY SINKS, (4) UNDEVELOPED OUTDOOR AREAS, AND (5) INDIVIDUAL LABORATORY SPACE. DISCUSSION INCLUDES DEFINITION OF HYPOTHESIS, LISTING OF DATA, AND EXTENSIVE MODEL, RESEARCH DESIGN, AND APPLICATION AND INTERPRETATION OF RESULTS. DETAILED INFORMATION IS PROVIDED ON INTERVIEWS, AND DATA IS GIVEN FOR FIFTY-NINE SCHOOLS IN SEVERAL STATES. (MM)

Availability:

Order from EDRS as: ED 024 214
MF $0.75 HC $7.60

ERIC/CEF DOCUMENT NO. EF001959 DISPOSITION-EDC- 1

SPACE REQUIREMENTS FOR SCIENCE INSTRUCTION GRADES 9-12

BY- ENGELHARDT, DAVID FREDERIC
HARVARD UNIVERSITY, CAMBRIDGE, MASS., GRADUATE SCHOOL OF EDUCATION

PUBLISHED-OCT66

143 PAGES

DESCRIPTORS- *EDUCATIONAL SPECIFICATIONS, *SCHOOL DESIGN, *SCHOOL SPACE, *SCIENCE FACILITIES, *SECONDARY SCHOOL SCIENCE, EQUIPMENT STORAGE, FLEXIBLE FACILITIES, OBJECTIVES, SCHOOL SIZE, SCIENCE ACTIVITIES, SCIENCE CURRICULUM, SCIENCE EQUIPMENT, SCIENCE LABORATORIES, SPACE UTILIZATION, TEACHING METHODS

KEY ISSUES IN THE DESIGN OF SCIENCE FACILITIES USED BY GRADES NINE THROUGH TWELVE ARE PRESENTED AND ANALYZED IN THIS EXTENDED DISCUSSION. FOUR BASIC DETERMINANTS OF EDUCATIONAL SPECIFICATIONS ARE GIVEN AS--(1) GROSS ACTIVITIES AND SUB-GROUP ORGANIZATION, (2) NUMBER OF STUDENTS IN THE SPACE, (3) SERVICES REQUIRED, AND (4) LOCATION IN RELATION TO SCHOOL BUILDING AND SITE. A PROCEDURAL PLANNING MODEL IS PRESENTED WHICH RELATES GOALS, METHODS AND FACILITIES. THE DISCUSSION IS BASED ON DEFINITION OF GOALS, DETERMINATION OF METHODS INCLUDING WET AND DRY LABS, VERIFYING AND INQUIRY EXPERIMENT, DIRECTED AND UNDIRECTED STUDY, AND SPECIFICATION OF FACILITIES AND SERVICES. CONCLUSIONS RELATE TO METHODS OF DETERMINING EDUCATIONAL SPECIFICATIONS AND APPROACHES TO PLANNING AND RESEARCH. (MM)

Availability:

Order from EDRS as: ED 022 353
MF $0.75 HC $7.25

32

ERIC/CEF DOCUMENT NO. EF002756 DISPOSITION-CERS 2

BUILDINGS FOR EDUCATION, V 2 N 4

ASIAN REGIONAL INSTITUTE FOR SCHOOL BUILDING RESEARCH, COLOMBO (CEYLON)

PUBLISHED-DEC68

034 PAGES

DESCRIPTORS- *CLASSROOM DESIGN, *DESIGN NEEDS, *FACILITY REQUIREMENTS, *SCIENCE EQUIPMENT, *SCIENCE LABORATORIES, CLASSROOM FURNITURE, EDUCATIONAL EQUIPMENT, SCIENCE FACILITIES

A QUARTERLY REVIEW IS PRESENTED OF THE ACTIVITIES OF THE ASIAN REGIONAL INSTITUTE FOR SCHOOL BUILDING RESEARCH (STUDIES CONDUCTED, CONTRACTS, DEVELOPMENT GROUP WORK, ETC.). TECHNICAL NOTES ARE PRESENTED CONCERNING THE DESIGN OF SCIENCE LABORATORIES FOR ASIAN SECONDARY LEVEL SCHOOLS. IT IS NOTED THAT CHANGED DESIGNS FOR CURRICULUM AND NEW METHODS OF TEACHING SCIENCE HAVE NECESSITATED NEW APPROACHES TO THE DESIGN OF SCIENCE LABORATORY FACILITIES. CONSIDERATION IS GIVEN TO SUCH THINGS AS LABORATORY ELECTRICITY, HEAT AND WATER SUPPLY, AND WORK BENCH DESIGN FOR BOTH URBAN AND RURAL AREAS OF ASIA. ALSO INCLUDED ARE ABSTRACTS OF 12 JOURNAL ARTICLES CONCERNED WITH VARIOUS ASPECTS OF EDUCATIONAL BUILDINGS. (FS)

Availability:

Asian Regional Institute for School Building Research
P.O. Box 1368
Colombo, Ceylon

ERIC/CEF COCUMENT NO. EF002336 DISPOSITION-CERS 1

JOSEPH PRIESTLY SCIENCE CENTER, A FEASIBILITY STUDY OF A PROPOSED SUPPLEMENTARY SCIENCE CENTER FOR THE LOWER DELAWARE VALLEY

BY- COX DCNALD W.
PHILADELPHIA SCHOOL DISTRICT, PA.

PUBLISHED-JUN66

067 PAGES

DESCRIPTORS- *ELEMENTARY SCHOOL SCIENCE, *SCIENCE EDUCATION, *SCIENCE FACILITIES, *SECONDARY SCHOOL SCIENCE, *SUPPLEMENTARY EDUCATIONAL CENTERS, FACILITY GUIDELINES, INSTRUCTIONAL AIDS, PLANETARIUMS, SCHOOL LOCATION, SCIENCE LABORATORIES, SCIENCE MATERIALS

PUBLIC SCHOOL SCIENCE INSTRUCTION, RESEARCH IN SCIENCE CURRICULUM DEVELOPMENT, AND INSERVICE TRAINING FOR SCIENCE TEACHERS IS PLANNED FOR ONE CENTRAL FACILITY. CONCENTRATED NATURAL SCIENCE COURSES USING SCIENCE EQUIPMENT NOT ORDINARILY AVAILABLE IN SCHOOLS WILL BE OFFERED TO ALL PUPILS, 4TH THROUGH 12TH GRADE, OF PHILADELPHIA AREA SCHOOL SYSTEMS. THE RECOMMENDED SITE IS CHOSEN FOR PROXIMITY TO THE NEW UNIVERSITY SCIENCE CENTER AND EASY ACCESS TO TRAFFIC ROUTES SERVING THE FULL AREA. AS STUDENTS ARE TO BE BUSED FROM THEIR REGULAR SCHOOLS, A SUBTERRANEAN, MULTISTORY PARKING FACILITY LOCATED BENEATH THE INSTRUCTICNAL BUILDING IS PLANNED. SCHEMATIC DIAGRAMS OF SPECIALIZED LABORATORIES, CLASSROOMS, LECTURE HALLS, MATERIALS CENTERS AND PLANETARIUM ARE INCLUDED. APPENDICES CONTAIN LISTS OF ADVISORY BOARD PERSONNEL, CHRONOLOGY FOR DEVELOPMENT OF THE CENTER, AND A SCHEDULE OF ESTIMATED ANNUAL AND FIVE YEAR OPERATING COSTS. (RLP)

Availability:

Educational Facilities Laboratories, Inc
477 Madison Avenue
New York, New York 10022

ERIC/CEF DOCUMENT NO. EF001089 DISPOSITION-CERS 2

A GUIDE FOR PLANNING SCHOOL FACILITIES FOR SCIENCE EDUCATION

NEW JERSEY STATE DEPARTMENT OF EDUCATION,TRENTON

015 PAGES

DESCRIPTORS- *EDUCATIONAL PLANNING, *SCHOOL PLANNING, *SCIENCE EDUCATION, *SCIENCE FACILITIES, *SCIENCE TEACHING CENTERS, EARTH SCIENCE, ELEMENTARY SCHOOL SCIENCE, GENERAL SCIENCE, MODERN SCIENCE, NATURAL SCIENCES, PHYSICAL SCIENCES , PLANT SCIENCE, BIOLOGICAL SCIENCES, SCIENCE ACTIVITIES, SCIENCE CURRICULUM, SCIENCE DEPARTMENTS, SCIENCE EQUIPMENT, SCIENCE LABORATORIES, SECONDARY SCHOOL SCIENCE

SCIENCE TEACHERS SHOULD ASSIST WITH FACILITY PLANNING. OTHER SCIENCE EDUCATION LEADERS AND INFORMED LAYMEN ALSO SHOULD BE INVOLVED. A FIRST STEP SHOULD BE THE FORMULATION OF PROGRAM PLANS WHICH CAN BE TRANSLATED INTO DRAWINGS. SPACE REQUIREMENTS ARE DEPENDENT UPON THE PROGRAM. LOCATION CONSIDERATIONS ARE ILLUMINATION, ACCESS, AND CONVENIENCE. PROPER EQUIPMENT AND FURNITURE SHOULD BE INCLUDED IN THE PLANNING. SPECIAL PROVISIONS MUST BE MADE FOR UTILITIES. SPECIAL CONSIDERATIONS MUST BE MADE FOR DIFFERENCES FOUND IN GENERAL SCIENCE, BUILOGY, CHEMISTRY, PHYSICS, EARTH SCIENCE, AND SELF-CONTAINED CLASSROOMS. OTHER CONSIDERATIONS MUST BE MADE FOR LABORATORIES, THE PLANETARIUM, AND OUTSIDE AREAS. A SELECTED BIBLIOGRAPHY PLUS SOME PLANNING AIDS ARE INCLUDED.

Availability:

New Jersey State Department of Education
Trenton, New Jersey

ERIC/CEF DOCUMENT NO. EF000407 DISPOSITION-CERS 2

SCIENCE FACILITIES FOR OUR SCHOOLS K-12

BY- SCHLESSINGER, FRED R.
NATIONAL SCIENCE TEACHERS ASSOCIATION, WASHINGTON, D.C.

PUBLISHED- 63

033 PAGES

DESCRIPTORS- *EDUCATIONAL PLANNING, *SCIENCE FACILITIES, *SCIENCE PROGRAMS, BIOLOGY, CHEMISTRY, EDUCATIONAL FACILITIES, ELEMENTARY SCIENCE, GENERAL SCIENCE, PHYSICS, PLANNING, SCIENCE EDUCATION, SCIENCE LABORATORIES, SECONDARY SCHOOL SCIENCE

MAJOR PURPOSES FOR SCIENCE TEACHING MUST BE DEFINED BEFORE THE DETERMINATION CAN BE MADE AS TO WHAT SCIENCE FACILITIES ARE NEEDED. INFLUENCING FACTORS SUCH AS NATIONAL CURRICULUM STUDIES, INNOVATIONS CHANGING SCHOOL POPULATIONS, AVAILABILITY OF TEACHERS, AND TECHNOLOGICAL PROGRESS MUST ALL BE CONSIDERED. CURRENT TRENDS IN SCIENCE EDUCATION MUST BE EVALUATED TO DETERMINE WHAT SHOULD BE PROVIDED FOR IN NEW FACILITIES. PRINCIPLES OF PLANNING TO BE OBSERVED ARE PROVIDING STORAGE, USING IDEAS OF MANY PEOPLE, ANTICIPATING UNIQUENESS OF SCIENCE TEACHING, PROVIDING FOR A RANGE OF ACTIVITIES AND USING COMMUNITY RESOURCES. SPECIAL ATTENTION IS DEVOTED TO SECTIONS ON ELEMENTARY, JUNIOR HIGH, AND SENIOR HIGH SCIENCE FACILITIES. ATTENTION IS ALSO DIRECTED TO THE IMPACT OF NDEA, TITLE III ON SCIENCE FACILITIES.

Availability:

National Science Teachers' Association
1201 Sixteenth Street N.W.
Washington, D.C.

ERIC/CEF DOCUMENT NO. EF002775 DISPOSITION-CERS 2

HERES WHAT NEW SCIENCE COURSES REQUIRE IN EQUIPMENT AND FACILITIES

BY- SCHLESSINGER, FRED R

PUBLISHED-MAR62
IN- THE NATIONS SCHOOL, V69 N3 P66-73 MAR 1962

AVAILABLE FROM- THE NATIONS SCHOOL, MCGRAW HILL PUB. CIRCULATION DEPT., 1050 MERCHANDISE MART, CHICAGO, ILLINOIS 60654

008 PAGES

DESCRIPTORS- *FACILITY REQUIREMENTS, *SCIENCE EQUIPMENT, *SCIENCE FACILITIES, *SCIENCE LABORATORIES, *SCIENCE MATERIALS, CLASSROOM DESIGN, EDUCATIONAL EQUIPMENT, EDUCATIONAL SPECIFICATIONS, LABORATORY EQUIPMENT, SCIENCE INSTRUCTION

EVOLVING PATTERNS IN SCIENCE CURRICULUMS AND TEACHING ARE EXAMINED WITH REGARD TO THE IMPLICATIONS THESE CHANGES HAVE FOR SCIENCE FACILITIES. OF ALL THE CHANGES TAKING PLACE, THE CHANGE TOWARD EMPHASIS ON LABORATORY WORK AS THE HEART OF SCIENCE TEACHING IS NOTED AS THE MOST IMPORTANT IN PLANNING SCIENCE FACILITIES. REQUIREMENTS AND SPECIFICATIONS ARE PRESENTED FOR SCIENCE LABORATORY EQUIPMENT AND MATERIALS, WORKING SPACE, STORAGE SPACE, AND MECHANIZED EQUIPMENT FOR MASS EDUCATION IN ELEMENTARY, JUNIOR, AND SENIOR HIGH SCHOOLS. (FS)

Availability:

McGraw Hill Publishers
Circulation Department
1050 Merchandise Mart
Chicago, Illinois 60654

COLLEGE AND UNIVERSITY SCIENCE FACILITIES

30

ERIC/CEF COCUMENT NO. EF002859 DISPOSITION-EDC 2

THE TEAM APPROACH TO PLANNING A COLLEGE SCIENCE BUILDING

BY- YARBROUGH, DAVID B
CAUDILL, ROWLETT AND SCOTT, HOUSTON, TEX. ARCHITECTS

PUBLISHED-SEP60

054 PAGES

DESCRIPTORS- *ARCHITECTURAL CHARACTER, *ARCHITECTURAL PROGRAMING, *BUILDING DESIGN, *FACILITY CASE STUDIES, *SCIENCE FACILITIES, ARCHITECTURAL ELEMENTS, ARCHITECTURE, BUILDING PLANS, CAMPUS PLANNING, COLLEGE BUILDINGS, DESIGN PREFERENCES

IN CONSIDERING THE TEAM APPROACH TO ARCHITECTURAL SERVICE, EMPHASIS IS GIVEN TO THE ADVANTAGES OF MANY SPECIALISTS WORKING TOGETHER TO SOLVE COMPLEX BUILDING PROBLEMS. THE ACTUAL USE OF THE TEAM APPROACH IS DESCRIBED TO ILLUSTRATE HOW CAUDILL, ROWLETT AND SCOTT ARCHITECTS SOLVED THE PROBLEMS IN PLANNING COLORADO COLLEGES SCIENCE BUILDING. THE SEQUENCE OF EVENTS ARE DISCUSSED THAT ARE REPRESENTATIVE OF THE EARLY CLIENT-ARCHITECT TEAM ACTION IN PLANNING, THE ACTIVITIES EXTEND FROM THE CONCEPTION OF THE BUILDING THROUGH THE CLIENT APPROVAL OF THE BASIC DESIGN. DIAGRAMMATIC PLANS AND SKETCHES ARE INCLUDED. (FS)//

Availability:

Caudill, Rowlett and Scott, Architects
1111 West Loop South
Houston, Texas 77027

22

ERIC/CEF DOCUMENT NO. EF003272 DISPOSITION-UFRC 1

FACILITIES FOR THE FUTURE

BY- GORES, HAROLD B.

PUBLISHED-MAR63

014 PAGES

DESCRIPTORS- *COLLEGE PLANNING, *FLEXIBLE FACILITIES, *PHYSICAL ENVIRONMENT, *SCIENCE FACILITIES, *SPACE UTILIZATION, COLLEGE HOUSING, LIBRARIES

CHANGES IN THE PHYSICAL ENVIRONMENT OF EDUCATION ARE DISCUSSED. TOPICS INCLUDE PLANNING, FLEXIBILITY IN ACADEMIC SPACE, UTILIZATION OF SPACE, HOUSING, SCIENCE FACILITIES, LIBRARIES, AND NEW SHAPES AND MATERIALS. (FPO)//

Availability:

Order from EDRS as: ED 031 900
MF $0.25 HC $0.80

ERIC/CEF DOCUMENT NO. EF002213 DISPOSITION-UFRC 1

THE UTILIZATION OF CONSULTANTS FOR THE PLANNING AND DESIGNING OF COLLEGE SCIENCE FACILITIES

BY- MOONEY, WILLIAM T., JR.

PUBLISHED-SEP67

010 PAGES

DESCRIPTORS- *ARCHITECTURAL PROGRAMING, *EDUCATIONAL PLANNING, *HIGHER EDUCATION, *SCIENCE CONSULTANTS, *SCIENCE FACILITIES, ARCHITECTS, BIBLIOGRAPHIES, PROFESSIONAL SERVICES, REFERRAL, SPECIALISTS

QUESTIONS DISCUSSED ARE--(1)WHY SHOULD A CONSULTANT BE HIRED, (2)WHAT CAN THE CONSULTANT DO THAT OUR OWN STAFF AND ARCHITECT CANNOT DO, AND (3)WHAT IS AN EDUCATIONAL PLANNING PROGRAM FOR A COLLEGE SCIENCE FACILITY. FIFTEEN BASIC STEPS INVOLVED IN THE DEVELOPMENT OF THE EDUCATIONAL PLANNING PROGRAM ARE DESCRIBED WHICH HELP COLLEGE SCIENCE FACULTIES, ADMINISTRATORS, AND ARCHITECTS UNDERSTAND THE PURPOSE AND VALUE OF AN EDUCATIONAL PLANNING PROGRAM AND THE ROLE OF THE CONSULTANT. (HH)//

Availability:

Order from EDRS as: ED 024 233
MF $0.25 HC $0.60

ERIC/CEF COCUMENT NO. EF002965 DISPOSITION-EDC 2

GENESIS OF A BUILDING

PUBLISHED-SEP62
IN- THE COLORADO COLLEGE MAGAZINE (DEDICATION ISSUE), P.7-15, WINTER 1963

AVAILABLE FROM- THE COLORADO COLLEGE MAGAZINE, BOARD OF TRUSTEES, COLORADO COLLEGE, COLORADO SPRINGS, COLORADO 80903

009 PAGES

DESCRIPTORS- *ARCHITECTURAL CHARACTER, *BUILDING DESIGN, *COLLEGE BUILDINGS, *COMPONENT BUILDING SYSTEMS, *SCIENCE FACILITIES, ARCHITECTURE, DESIGN PREFERENCES, FACILITY EXPANSION, FLEXIBLE FACILITIES, SCIENCE LABORATORIES

DESIGN, STRUCTURAL, AND FUNCTIONAL FEATURES ARE DESCRIBED FOR COLORADO COLLEGE,S SCIENCE BUILDING. THE TEAM APPROACH TO ITS PLANNING IS DESCRIBED AS REFLECTED IN THE BUILDING,S CLASSROOMS, LABORATORIES, AND ARCHITECTURAL DESIGN. SPECIAL CONSIDERATION IS GIVEN TO ITS EXOSKELETON CONSTRUCTION CONTAINING MECHANICAL SERVICES, PERMITTING UTILITIES TO BE REACHED FROM INSIDE THE BUILDING THROUGH REMOVABLE PANELS. EXAMPLES OF FACILITY FLEXIBILITY CREATED BY THIS SYSTEM ARE NOTED. PHOTOGRAPHS ARE INCLUDED ILLUSTRATING THE DESCRIPTIONS. (FS)//

Availability:

The Colorado College Magazine
Board of Trustees
Colorado College
Colorado Springs, Colorado 80903

ERIC/CEF DOCUMENT NO. EF001288 DISPOSITION-EDC- 1

THE COLLEGE AND UNIVERSITY SCIENCE CENTER (REPORT FROM A WORKSHOP SPONSORED BY EDUCATIONAL EXECUTIVES OVERVIEW MAGAZINE AND PERKINS AND WILL, ARCHITECTS, NEW YORK CITY, OCTOBER 26, 1961)

BY- SHAW, ARCHIBALD
PERKINS AND WILL, CHICAGO, ILLINOIS

PUBLISHED-OCT61

048 PAGES

DESCRIPTORS- *COLLEGE BUILDINGS, *DESIGN NEEDS, *FLEXIBLE FACILITIES, *SCIENCE FACILITIES, *SPATIAL RELATIONSHIP, BIOLOGY, CHEMISTRY, MATHEMATICS, PHYSICS, SCIENCE EDUCATION, SCIENCE LABORATORIES, SCIENTIFIC RESEARCH, WORKSHOPS

THIS IS A REPORT OF A DAY≠S WORKSHOP ON THE COLLEGE SCIENCE CENTER, WITH A GROUP OF ARCHITECTS, COLLEGE ADMINISTRATORS, AND FACULTY. THE EMPHASIS WAS ON A DISCUSSION OF THE CONSOLIDATION OR CENTRALIZATION OF SCIENCE FACILITIES ON THE LIBERAL ARTS CAMPUS. SPECIFIC TOPICS INCLUDED--(1) WHY BUILD A SCIENCE CENTER, (2) BRIDGING OVER SUBJECT BOUNDARIES, (3) LABORATORIES AND THE STUDENT, AND (4) RESEARCH AND THE PROFESSOR. ILLUSTRATIONS WERE GIVEN OF ACTUAL AND THEORETICAL SCIENCE CENTER LAYOUTS, SUCH AS--(1) HALLS OF SCIENCE, (2) EXPANSION OF EXISTING SCIENCE BUILDING, (3) EARTH SCIENCES BUILDING, (4) SCIENCE-ENGINEERING-RESEARCH CENTER, (5) MEDICAL RESEARCH BUILDING, (6) IBM LABORATORY, (7) CHEMISTRY BUILDING, (8) BIOLOGY AND GEOLOGY LABORATORY, AND (9) SCIENCE AND PHARMACY BUILDINGS. A DETAILED CASE STUDY WAS GIVEN FOR SWARTHMORE≠S SCIENCE CENTER. A FINAL STATEMENT WAS MADE ON FLEXIBILITY. (MM)

Availability:

Order from EDRS as: ED 017 144
MF $0.25 HC $2.50

ERIC/CEF COCUMENT NO. EF001271 DISPOSITION-EDC- 2

1966 DESIGN AWARDS PROGRAM HIGHER EDUCATION FACILITIES DESIGN AWARDS

BY- MUIRHEAD, PETER P.
EDUCATIONAL FACILITIES LABORATORIES, INC., NEW YORK, N. Y.

PUBLISHED- 66

81 PAGES

DESCRIPTORS- *COLLEGE BUILDINGS, *EDUCATIONAL FACILITIES, *SCHOOL DESIGN, CAMPUS PLANNING, CLASSROOMS, SCIENCE LABORATORIES, UNIVERSITY LIBRARIES

THE AWARDS PROGRAM WAS DEVELOPED TO RECOGNIZE SUPERIOR QUALITY IN THE DESIGN OF COLLEGE FACILITIES AND TO PROMOTE A GREATER UNDERSTANDING OF THE NEED FOR COMPREHENSIVE CAMPUS DEVELOPMENT PLANNING. ENTRIES WERE LIMITED TO PROJECTS FOR WHICH APPLICATIONS FOR FEDERAL GRANTS OR LOANS HAD BEEN APPROVED BY THE OFFICE OF EDUCATION UNDER THE HIGHER EDUCATION FACILITIES ACT OF 1963. WINNING ENTRIES WERE--(1) SEVEN GENERAL CLASSROOMS, (2) SIX SCIENCE AND LABORATORY BUILDINGS, (3) ELEVEN LIBRARY BUILDINGS, (4) ONE GRADUATE AND PROFESSIONAL SCHOOL, AND (5) THE CAMPUS DEVELOPMENT PLANS. ENTRIES WERE FURTHER IDENTIFIED AS EITHER COMPLETED BUILDINGS OR COMPLETED DESIGNS AND BUILDINGS UNDER CONSTRUCTION. WINNING SUBMITTALS INCLUDE--(1) PLANS, (2) SECTIONS, (3) PERSPECTIVES, (4) PHOTOGRAPHS OF BUILDING OR MODEL, (5) STATEMENTS BY ARCHITECT AND HEAD OF INSTITUTION, AND (6) JURY COMMENT. THIS DOCUMENT IS AVAILABLE FROM THE EDUCATIONAL FACILITIES LABORATORIES, 477 MADISON AVENUE, NEW YORK, N.Y. (MH)

Availability:

Educational Facilities Laboratories, Inc
477 Madison Avenue
New York, New York 10022

ERIC/CEF DOCUMENT NO. EF000507 DISPOSITION-EDC- 1

BASIC STEPS IN DESIGNING SCIENCE LABORATORIES

BY- WHITNEY, FRANK L.
AMERICAN SCHOOL AND UNIVERSITY, NEW YORK, N. Y.

PUBLISHED-MAY65
IN- AMERICAN SCHOOL AND UNIVERSITY, MAY 65, PP. 68-71, 75-76

DESCRIPTORS- *LABORATORIES, *SCIENCE FACILITIES, *SCIENCE LABORATORIES, *BUILDING DESIGN, CONTROLLED ENVIRONMENT, LABORATORY EQUIPMENT, PLANNING, SCIENCE EQUIPMENT, WORK ENVIRONMENT

PLANNERS OF CURRENT UNIVERSITY LABORATORIES OFTEN MAKE THE SAME MISTAKES MADE BY INDUSTRIAL LABORATORIES 20 YEARS AGO. THIS CAN BE REMEDIED BY INCREASED COMMUNICATION BETWEEN SCIENTISTS AND DESIGNERS IN SEMINARS DEFINING THE BASIC NEEDS OF A PARTICULAR LABORATORY SITUATION. ELECTRONIC AND MECHANICAL EQUIPMENT ACCOUNT FOR OVER 50 PER CENT OF TOTAL COSTS AND ARE THE MOST CRUCIAL AREAS FOR DESIGN FOR COST CONTROL AND FUTURE FLEXIBILITY. ENVIRONMENTAL CONTROL IS USUALLY NECESSARY AND MAY INCLUDE AIR CONDITIONING, TEMPERATURE, SOUND, LIGHT, VIBRATION, AND DUST. TWO RULES OF THUMB FOR LABORATORY EFFICIENCY ARE GIVEN--(1) THE RATIO OF ASSIGNABLE SPACE TO GROSS SPACE SHOULD BE ABOUT 50 PER CENT, AND (2) SPACE PER PERSON SHOULD BE BETWEEN 200 AND 400 SQUARE FEET. THIS ARTICLE APPEARED IN THE MAY 1965 ISSUE OF AMERICAN SCHOOL AND UNIVERSITY. COPIES MAY BE OBTAINED BY WRITING TO THE EDITOR, AMERICAN SCHOOL AND UNIVERSITY, 757 THIRD AVENUE, MANHATTAN, NEW YORK. (JT)

Availability:

American School and University
757 Third Avenue
New York, New York 10022

ERIC/CEF DOCUMENT NO. EF001769 DISPOSITION-EDC- 1

SAFETY IN THE DESIGN OF SCIENCE LABORATORIES AND BUILDING CODES

BY- HOROWITZ, HAROLD
NATIONAL SCIENCE FOUNDATION, WASHINGTON, D.C.

PUBLISHED-JUN66

016 PAGES

DESCRIPTORS- *BUILDING DESIGN, *CAMPUS PLANNING, *HEALTH, *SAFETY, *SCIENCE LABORATORIES, BIOLOGY, BUILDING EQUIPMENT, BUILDING MATERIALS, CHEMISTRY, LABORATORY SAFETY, SCIENCE EQUIPMENT, STATE STANDARDS, VENTILATION

THE DESIGN OF COLLEGE AND UNIVERSITY BUILDINGS USED FOR SCIENTIFIC RESEARCH AND EDUCATION IS DISCUSSED IN TERMS OF LABORATORY SAFETY AND BUILDING CODES AND REGULATIONS. MAJOR TOPIC AREAS ARE--(1) SAFETY RELATED DESIGN FEATURES OF SCIENCE LABORATORIES, (2) LABORATORY SAFETY AND BUILDING CODES, AND (3) EVIDENCE OF UNSAFE DESIGN. EXAMPLES EMPHASIZE PROBLEMS OF CHEMICAL FUME VENTILATION AND RELATIONSHIPS BETWEEN DESIGN AND LOCATION AND AIR MOVEMENT PATTERNS. FETY EQUIPMENT, ADDITIONAL EXAMPLES INCLUDE ANIMAL ROOMS, FIRE AND SAFETY EQUIPMENT, AND CHEMICAL STORAGE. INTRODUCTORY MATERIAL DESCRIBED THE FUNCTION OF THE ARCHITECTURAL SERVICES STAFF OF THE NATIONAL SCIENCE FOUNDATION. (MM)

Availability:

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MF $0.25 HC $0.90

ERIC/CEF COCUMENT NO. EF002202 DISPOSITION-EDC 1

MASTER PLANNING SCIENCE FACILITIES

PUBLISHED-FEB64

013 PAGES

DESCRIPTORS- *COLLEGE PLANNING, *EDUCATIONAL SPECIFICATIONS, *JUNIOR CCLLEGES, *SCIENCE FACILITIES, *SPACE UTILIZATION, CHEMISTRY, COMMITTEES, INFORMATION NEEDS, SCHOOL SIZE, SCIENCE EQUIPMENT, SCIENCE LABORATORIES, SPATIAL RELATIONSHIP

AN OUTLINE OF A CONFERENCE PAPER ON PLANNING FOR SCIENCE FACILITIES PROVIDES A REFERENCE LIST OF AREAS AND PROCEDURES TO BE CONSIDERED. THE MAJOR CATEGORIES INCLUDE--(1) THE PLANNING STAGE, (2) THE PLANNING COMMITTEE, (3) THE PHILOSOPHY OF SCIENCE EDUCATION, (4) THE TYPE OF FACILITY TO BE BUILT, (5) FACILITIES AND SPACES REQUIRED, (6) INFORMATION TO BE OBTAINED FROM OTHER COLLEGES, AND (7) PUBLISHED SOURCES OF INFORMATION. SUBGROUPING OF CONSIDERATIONS ARE INCLUDED WITHIN EACH MAJOR CATEGORY. SPECIAL EMPHASIS IS PLACED ON SPACE REQUIREMENTS AND RELATIONSHIPS. APPENDICES INCLUDE THE RELATIONSHIP OF SCIENCE TO OTHER CAMPUS FACILITIES, RELATIONSHIPS OF SPACES, AND FLOW OF MATERIAL IN A CHEMISTRY DEPARTMENT. (MM)

Availability:

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MF $0.25 HC $0.75

PLANNING THE SCIENCE LABORATORY

ERIC/CEF DOCUMENT NO. EF003334 DISPOSITION- EDC 1

PLANNING A LABORATORY

BY- KUNHARDT, KEITH R.

PUBLISHED-MAR68
IN- LABORATORY MANAGEMENT, V6 N3 P18-21 MARCH 1968

AVAILABLE FROM- UNITED BUSINESS PUB., INC., 200 MADISON AVE., NEW YORK, N. Y. 10016

004 PAGES

DESCRIPTORS- *FACILITY REQUIREMENTS, *LABORATORIES, *LABORATORY EQUIPMENT, *PLANNING, *QUESTIONNAIRES, CONTROLLED ENVIRONMENT, COSTS, DESIGN NEEDS, FACILITY GUIDELINES, FACILITY UTILIZATION RESEARCH, FINISHING, LABORATORY SAFETY, LIGHTING, SCIENCE FACILITIES, SPACE UTILIZATION, TEMPERATURE, UTILITIES

FACTORS FOR THE PLANNING OF FUNCTIONAL, ECONOMICAL AND SAFE LABORATORY FACILITIES ARE DISCUSSED, WITH EMPHASIS ON THE ECONOMICAL RESULTS OF PLANNING FOR A SPECIFIC PURPOSE AND FOR THE SPECIFIC NEEDS OF EACH OCCUPANT. A QUESTIONNAIRE IS SUGGESTED AS A USEFUL TOOL FOR DETERMINING REQUIREMENTS. OTHER AREAS FOR CONSIDERATION INCLUDE--(1) LABORATORY FURNITURE, (2) BENCHTOP AND FLOOR STANDING EQUIPMENT, (3) UTILITIES, AND (4) SPECIAL PROBLEMS SUCH AS CONTROLLED ENVIRONMENTAL CHAMBERS, FUME HOODS AND SPECIAL CABINETS. FOUR VERSIONS OF A LABORATORY PLAN FOR 24 STUDENTS ARE GIVEN, WITH REASONS FOR THE FINAL CHOICE. (RW)//

Availability:

United Business Publications, Inc.
200 Madison Avenue
New York, New York 10016

ERIC/CEF COCUMENT NO. EF003335 DISPOSITION-EDC 2

PROBLEMS ENCOUNTERED IN LAB DESIGN

PUBLISHED-FEB67
IN- LABORATORY MANAGEMENT, V 5 N 2 P 16-17,42-44 FEBRUARY 1967

AVAILABLE FROM- UNITED BUSINESS PUB., INC., 200 MADISON AVE., NEW YORK, N.Y. 10016

005 PAGES

DESCRIPTORS- *ARCHITECTURE, *FACILITY REQUIREMENTS, *INTERIOR SPACE, *PHYSICAL DESIGN NEEDS, *SCIENCE LABORATORIES, CORRIDORS, DESIGN NEEDS, LABORATORY SAFETY, UTILITIES, VENTILATION

ADVICE IS PRESENTED BY THE NSF ARCHITECTURAL SERVICES STAFF ON SOME COMMON DIFFICULTIES WHICH MAY HAVE AN INFLUENCE ON THE FUNCTIONING OF A LABORATORY. COMMENTS ARE INCLUDED REGARDING THE FOLLOWING COMMON PROBLEMS FOUND IN ARCHITECTURAL PROPOSALS--(1) ABSENT OR INADEQUATELY SIZED LOADING DOCKS, (2) THE DIVERSITY OF QUALITY REQQUIREMENTS OF CENTRAL LABORATORY SERVICES, (3) THE USE OF SHAFTS AND CORRIDORS FOR ACCESS TO PIPES AND DUCTS, (4) PREDICTING THE APPROPRIATE SIZE LAB SPACE, (5) LAB LIGHTING, (6) DESIGN OF FUME HOODS, FUME DISPOSAL SYSTEMS, AIR INTAKES AND LAB VENTILATION, AND (7) THE CONTAMINATION OF SUPPLY AIR INTAKES BY THE OUTPUT FROM THE FUME HOOD EXHAUST TERMINALS. (FS)//

Availability:

United Business Publications, Inc.
200 Madison Avenue
New York, New York 10016

ERIC/CEF DOCUMENT NO. EF003239 DISPOSITION-EDC 2

HOW TO PLAN A SAFE SCIENCE LAB.

PUBLISHED-APR65

001 PAGES

DESCRIPTORS- *FACILITY GUIDELINES, *FACILITY REQUIREMENTS, *LABORATORY SAFETY, *PHYSICAL DESIGN NEEDS, *SCIENCE LABORATORIES, CHECK LISTS, SAFETY

A CHECK LIST IS PROVIDED FOR USE IN PLANNING A SAFE SCIENCE LABORATORY. FOURTEEN SUGGESTED SAFETY STANDARDS ARE INCLUDED. (FS)//

Availability:

McGraw-Hill Publications
Circulation Department
1050 Merchandise Mart
Chicago, Illinois 60606

ERIC/CEF COCUMENT NO. EF001284 DISPOSITION-EDC- 1

LABORATORY DESIGN CONSIDERATIONS FOR SAFETY

CAMPUS SAFETY ASSOCIATION, CHICAGO, ILLINOIS

PUBLISHED-JUN66

027 PAGES

DESCRIPTORS- *DESIGN, *EQUIPMENT, *SAFETY, *SCIENCE LABORATORIES, *STANDARDS, ACCIDENT PREVENTION, FIRE PROTECTION, LABORATORY SAFETY, LIGHTING, VENTILATION

THIS SET OF CONSIDERATIONS HAS BEEN PREPARED TO PROVIDE PERSONS WCRKING ON THE DESIGN OF NEW OR REMODELED LABORATORY FACILITIES WITH A SUITABLE REFERENCE GUIDE TO DESIGN SAFETY. THERE IS NO DISTINCTION BETWEEN TYPES OF LABORATORY AND THE EMPHASIS IS ON GIVING GUIDES AND ALTERNATIVES RATHER THAN DETAILED SPECIFICATIONS. AREAS COVERED INCLUDE--(1) AUTOMATIC SYSTEMS FCR FIRE AND EXPLOSION PROTECTION, (2) EMERGENCY ALARM SYSTEMS, (3) SPECIAL FACILITIES FOR CHEMICAL STORAGE, HANDLING, AND DISPOSAL, (4) SAFETY EQUIPMENT, (5) FACILITIES FOR INFECTIOUS AGENTS AND ANIMALS, (6) LABORATORY VENTILATION, (7) ILLUMINATION, (8) RADIO ISOTOPES, (9) EGRESS FACILITIES, (10) FIRE RESISTANCE, (11) WATER SUPPLY AND PIPING, AND (12) MISCELLANEOUS DESIGN FEATURES. SPECIAL EMPHASIS IS GIVEN TO LABORATORY VENTILATION, AND A BIBLIOGRAPHY IS PROVIDED ON INFECTIOUS AGENTS AND ANIMALS. (MM)

Availability:

Order from EDRS as: ED 017 143
MF $0.25 HC $1.45

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ERIC/CEF DOCUMENT NO. EF002553 DISPOSITION-EDC 1

THE DESIGN OF RESEARCH LABORATORIES. PART I A GENERAL ASSESSMENT. PART II AIR CONDITIONING AND CONDITIONED ROOMS

PUBLISHED-JAN66

043 PAGES

DESCRIPTORS- *ANNOTATED BIBLIOGRAPHIES, *DESIGN NEEDS, *LABORATORIES, *RESEARCH, *SCIENCE LABORATORIES, AIR CONDITIONING, AIR CONDITIONING EQUIPMENT, CONSTRUCTION COSTS, DESIGN, FLEXIBLE FACILITIES, FURNITURE, GLASS, LABORATORY EQUIPMENT, PLANNING, SPACE UTILIZATION, TEMPERATURE, VENTILATION

DESIGN FACTORS IN THE PLANNING OF RESEARCH LABORATORIES ARE DESCRIBED WHICH INCLUDE--(1) LOCATION, (2) FUTURE EXPANSION, (3) INTERNAL FLEXIBILITY, (4) PROVISION OF SERVICES, (5) LABORATORY FURNISHING, (6) INTERNAL TRAFFIC, (7) SPACE REQUIREMENTS, AND (8) BUILDING COSTS. A SECOND PART DISCUSSES AIR-CONDITIONING AND CONDITIONED ROOMS--(1) AIR-CONDITIONING FOR OCCUPANTS, (2) AIR-CONDITIONING FOR MATERIALS AND OPERATIONS, (3) EFFECT OF TEMPERATURE CHANGE ON RELATIVE HUMIDITY, (4) VENTILATION, AIR CHANGE, AND AIR DISTRIBUTION, (5) COSTS OF AIR-CONDITIONING, (6) INFLUENCE OF GLASS AREAS, (7) WINTER RELATIVE HUMIDITIES, AND (8) PLANNING IMPLICATIONS. AN ANNOTATED BIBLIOGRAPHY OF 95 CITATIONS ON LABORATORY DESIGN IS INCLUDED AS AN APPENDIX. (RH)

Availability:

Order from EDRS as: ED 029 453
MF $0.25 HC $2.25

ERIC/CEF COCUMENT NO. EF003315 DISPOSITION-EDC 2

REMODELING THE EXISTING LABORATORY

PUBLISHED-MAR64

003 PAGES

DESCRIPTORS- *FACILITY IMPROVEMENT, *FACILITY REQUIREMENTS, *FURNITURE DESIGN, *LABORATORY EQUIPMENT, *SCIENCE LABORATORIES, DESIGN PREFERENCES, EQUIPMENT, FACILITY GUIDELINES, PHYSICAL DESIGN NEEDS

PROCEDURES ARE PRESENTED FOR MODIFICATION OF AN EXISTING LABORATORY IN TERMS OF FURNITURE AND EQUIPMENT. THE FOLLOWING ARE FACTORS WHICH ARE DISCUSSED AS MANDATORY REQUIREMENTS IN THE CHOICE OF LAB EQUIPMENT, MATERIALS, AND DESIGN--(1) ADEQUACY AND FUNCTIONAL USE, (2) SAFETY, (3) QUALITY, (4) EFFICIENCY, AND (5) CONSTRUCTIVE, PRODUCTIVE, AND CREATIVE RESEARCH ATMOSPHERE. DESIRABLE REQUIREMENTS DISCUSSED INCLUDE APPEARANCE, FLEXIBILITY, AND ECONOMY. CONSIDERATION IS ALSO GIVEN TO PRACTICES IN BIDDING ON NEW LAB EQUIPMENT AND FURNITURE, TO AVAILABILITY AND DELIVERY SCHEDULE OF PURCHASES, AND TO THE USE OF UNITIZED STOCK UNITS. (FS)//

Availability:

F.D. Thompson Publications, Inc.
205 West Wacker Drive
Chicago, Illinois 60606

ERIC/CEF DOCUMENT NO. EF003312 DISPOSITION-EDC 2

USING INDUSTRY KNOW-HOW IN PLANNING YOUR LAB

BY- FIANCE, SEYMOUR

PUBLISHED-MAR64
IN- RESEARCH-DEVELOPMENT, P 25-27 MARCH 1964

AVAILABLE FROM- F.D. THOMPSON PUB., INC., 205 W. WACKER DR., CHICAGO, ILLINOIS 60606

003 PAGES

DESCRIPTORS- *DESIGN PREFERENCES, *FACILITY GUIDELINES, *LABORATORY EQUIPMENT, *PLANNING, *SCIENCE LABORATORIES, FACILITY REQUIREMENTS, PHYSICAL DESIGN NEEDS

SEVERAL IMPORTANT REASONS ARE CITED SUPPORTING THE CONTENTION THAT INDUSTRIAL SPECIALISTS SHOULD BE UTILIZED FOR THE PLANNING AND EQUIPPING OF SCIENCE LABORATORIES. THE ADVANTAGEOUS EMPLOYMENT OF LAB PLANNING EXPERTS IS DISCUSSED WITH REGARD TO ACHIEVING THE OPTIMUM IN SAFETY, FUNCTIONALISM, FLEXIBILITY, AND CONVENIENCE IN LAB PLANNING AND FURNISHING. (FS)//

Availability:

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Chicago, Illinois 60606

ERIC/CEF DOCUMENT NO. EF003311 DISPOSITION- EDC 1

WHAT THE R AND D MAN NEEDS IN SCIENTIFIC FURNITURE AND WHY

BY- HALLENBERG, E. X.

PUBLISHED-MAR64
IN- RESEARCH

AVAILABLE FROM- F. D. THOMPSON PUB., INC., 205 W. WACKER DRIVE, CHICAGO, ILLINOIS 60606

005 PAGES

DESCRIPTORS- *CONTROLLED ENVIRONMENT, *LABORATORY EQUIPMENT, *LABORATORY SAFETY, *MECHANICAL EQUIPMENT, *SCIENCE LABORATORIES, ACOUSTICS, BUILDING EQUIPMENT, CLIMATE CONTROL, ELECTRICAL SYSTEMS, ELECTRICITY, ELECTRONIC CONTROL, HEAT, ILLUMINATION LEVELS, LABORATORIES, LIGHTING, RESEARCH, TEMPERATURE, VENTILATION

THE COMPLEXITY OF TODAY≠S RESEARCH LABORATORIES REQUIRES A COMPLETELY CONTROLLABLE ENVIRONMENTAL SURROUNDING. RESEARCH FACILITIES REQUIRE CAREFULLY CONTROLLED TEMPERATURES, RELATIVE HUMIDITY, AND MOISTURE, AND MUST BE FREE OF INTERFERENCE FROM AIR-BORNE SOUND, MECHANICAL VIBRATIONS, AND ELECTRICAL SOURCES. ALSO DESIRABLE ARE SPECIAL POWER SUPPLIES, WITH CAREFULLY REGULATED POWER CAPABILITIES. RESULTING HEAT AND WASTE PRODUCTS MUST BE SKILLFULLY EXHAUSTED TO THE EXTERIOR TO INSURE THE HEALTH AND SAFETY OF THOSE WORKING WITHIN. (RH)//

Availability:

F.D. Thompson Publications, Inc.
205 West Wacker Drive
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ERIC/CEF DOCUMENT NO. EF003313 DISPOSITION-EDC 2

WHAT THE SCIENTIFIC FURNITURE INDUSTRY OFFERS THE LAB PLANNER

BY- HORNESS, JOSEPH

PUBLISHED-MAR64
IN- RESEARCH-DEVELOPMENT, P 22-24 MARCH 1964

AVAILABLE FROM- F.D. THOMPSON PUB., INC., 205 W. WACKER DR., CHICAGO, ILLINOIS 60606

003 PAGES

DESCRIPTORS- *FURNITURE, *FURNITURE DESIGN, *LABORATORY EQUIPMENT, *PHYSICAL DESIGN NEEDS, *SCIENCE LABORATORIES, SCIENCE EQUIPMENT

A GENERAL DISCUSSION IS PRESENTED CONCERNING INDUSTRY,S DEVELOPMENT OF SCIENTIFIC FURNITURE IN ACCORDANCE WITH SPECIFICATIONS DETERMINED BY CERTAIN PRESCRIBED USES. ATTENTION IS GIVEN TO THE ROLE OF RESEARCH IN DEVELOPMENT OF NEW LAB FURNITURE AND THE NEED FOR CONTINUED PROGRESS IN THIS AREA. ALSO INCLUDED IS A SUMMARIZATION OF INDUSTRY,S ENGINEERING RESEARCH AND DEVELOPMENT SERVICES THAT ARE AVAILABLE TO THE ARCHITECT AND THE OWNER. (FS)//

Availability:

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